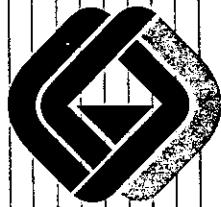


SITE ASSESSMENT FOR AERIALLY DEPOSITED LEAD

**ROUTE 5 FROM
0.1 KILOMETERS SOUTH
OF THE 24TH STREET
UNDERCROSSING TO THE
HARBOR DRIVE UNDERCROSSING
NATIONAL CITY, CALIFORNIA
KP: 16.0/17.1; PM: 10.0/10.7
CONTRACT NO. 43A0012
TASK ORDER NO. 11-066700-VZ**



GEOCON

CONSULTANTS, INC.

ENVIRONMENTAL
GEOTECHNICAL
MATERIALS

PREPARED BY

**GEOCON CONSULTANTS, INC.
6970 FLANDERS DRIVE
SAN DIEGO, CALIFORNIA 92121
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PREPARED FOR

**CALIFORNIA DEPARTMENT OF
TRANSPORTATION DISTRICT 11
SAN DIEGO, CALIFORNIA**

JUNE 27, 2001

GEOCON

CONSULTANTS, INC.

ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS



Project No. 08900-06-108
Task Order No. 11-066700-VZ
June 27, 2001

Mr. Joel Kloth
California Department of Transportation
District 11
2829 Juan Street
San Diego, California 92110

Subject: ROUTE 5 FROM 0.1 KM SOUTH OF THE 24TH STREET
UNDERCROSSING TO THE HARBOR DRIVE UNDERCROSSING
NATIONAL CITY, CALIFORNIA
KP: 16.0/17.1, PM: 10.0/10.7
CONTRACT NO. 43A0012
SITE ASSESSMENT FOR AERIALLY DEPOSITED LEAD

Dear Mr. Vivar:

In accordance with Caltrans Contract No. 43A0012 and Task Order No. 11-066700-VZ dated March 8, 2001, Geocon Consultants, Inc. has performed an aerially deposited lead investigation (ADL) at the site consisting of the exposed soil from one and a half to four and a half meters from the edge of the pavement along Route 5 from 0.1 kilometer south of the 24th Street Undercrossing to the Harbor Drive Undercrossing in National City, California. The accompanying report summarizes the services performed, including the advancement of hand auger borings, limited soil sampling, statistical analyses, and laboratory analyses. Please call us if you have any questions.

Sincerely,

GEOCON CONSULTANTS, INC.


Robert C. Owoc
Senior Staff Geologist

RCO:RJK:dmc

(5) Addressee


Ronald J. Kofron, CEG 1527
Senior Geologist

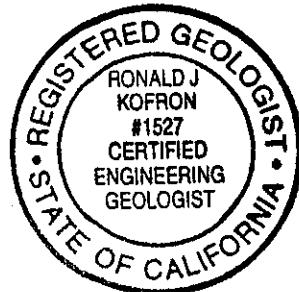


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- A. Geocon Standard Operating Procedures
- B. Laboratory Reports and Chain-of-Custody Documentation
- C. Statistical Analyses

I. EXECUTIVE SUMMARY

Geocon Consultants, Inc. (Geocon) has performed a site investigation to evaluate the presence of aerially deposited lead (ADL) resulting from the historical combustion of leaded fuels from freeway traffic. Data from the investigation was used to evaluate the reuse method for soil excavated at the site during the proposed excavation activities, and to inform Caltrans of potential health and safety issues concerning the presence of lead in soil for workers at the site during construction activities. Soil samples were analyzed for total lead, soluble lead, using WET (waste extraction test) citric and WET-DI (distilled water) methods, and pH.

Laboratory analytical results and statistical analysis of lead concentrations indicated that based upon the 80% lognormal UCL and predicted soluble lead concentrations, the upper 0.30 meters of soil excavated from the site is suitable for reuse in Caltrans right-of-ways according to the DTSC Lead Variance. Based on the 95% normal UCL and predicted soluble lead concentrations, the upper 0.60 meters of soil excavated from the site has the potential to be classified as a hazardous waste according to the DTSC Lead Variance. The average WET-DI concentration of the samples analyzed exceeds 0.5 milligrams per liter (mg/l).

Geocon recommends that if the soil excavated along the shoulders of the roadway is to be reused on-site, the upper 0.30 meters of soil be placed under pavement, and at least 1.5 meters above the maximum groundwater level in accordance with the DTSC Lead Variance. Geocon recommends that Caltrans notify the contractors performing the construction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead. If the excavated soil is to be disposed, it should be handled as a hazardous material with respect to lead content.

SITE ASSESSMENT FOR AERIALLY DEPOSITED LEAD

1. INTRODUCTION

1.1 Project Description and Objectives

Geocon has performed an ADL investigation along Route 5 from 0.1 kilometers south of the 24th Street Undercrossing to the Harbor Drive Undercrossing in National City, California (Figure 1).

The objective of the ADL investigation was to evaluate soil at the site for the presence of lead due to the historical combustion of leaded fuels from freeway traffic. The information obtained from the limited soil sampling and laboratory testing was used to evaluate the method of reuse of soil excavated during the proposed construction activities at the site. Caltrans proposes to excavate soil at the site. The data was also used to inform Caltrans of potential health and safety issues for workers at the site during construction activities.

1.2 Scope of Work

Geocon performed the following tasks:

1.2.1 Pre-field Activities

- Attended a Task Order meeting on March 22, 2001, to discuss issues such as field methods, boring locations, health and safety measures, and the completion schedule.
- Prepared a Health and Safety Plan dated March 23, 2001, for the proposed activities. The Health and Safety Plan included guidelines for the use of personal protective equipment for Geocon employees during the field activities.
- Contacted Underground Service Alert (USA) to notify utility companies of the field activities.

1.2.2 Limited Soil Sampling

A 7.62-centimeter-diameter hand auger was used to collect 87 soil samples from 30 boring locations on March 29, 2001. Boring locations designated as "S" are taken from 0.15 meters depth, "1" from 0.30 meters depth, and "2" from 0.60 meters depth. All borings were advanced to the maximum depth of approximately 0.60 meters below the ground surface, except borings B3, B5, and B9, which were advanced to a maximum depth of 0.30 meters. The approximate boring locations are depicted on Boring Location Map, Figure 2, Plates 1-3. The borings were backfilled with the soil cuttings generated.

1.2.3 Laboratory Analyses

Geocon submitted the soil samples to a California Department of Health Services (CDOHS)-certified analytical laboratory. Soil samples exhibiting total lead concentrations greater than or equal to 50 milligrams per kilograms (mg/kg) and less than 1,000 mg/kg were analyzed for soluble lead following EPA Test Method 7420 using the WET method with citric acid as the extractant. As described in the Task Order, four soil samples were analyzed for soluble lead following EPA Test Method 7420 using the WET method with deionized water as the extractant. At the request of Caltrans, an additional 18 soil samples were randomly chosen for analysis by the WET-DI method. In addition, 10 percent of the samples were analyzed for pH.

1.2.4 Geographical Information System Surveying (GIS)

GIS surveying was conducted using the Starlink receiver system with the IMAP software package using State Plane 83. GIS data is presented in latitude and longitude.

1.3 Previous Site Investigations

Geocon has not performed a previous investigation at the site. In addition, Caltrans has not notified Geocon of previous investigations performed at the site.

2. INVESTIGATIVE METHODS

2.1 Field Methods

The field methods used by Geocon to complete this TO are outlined in the following Geocon Standard Operating Procedures (SOPs) presented as Appendix A:

- SOP No. 11 - Hand-Augering and Soil Sample Collection
- SOP No. 31 - Soil Sample Handling Procedures

2.2 Deviations from Work Plan

A work plan was not prepared for this TO per agreement with the contract manager; however, Geocon performed the scope of work as described in TO No. 11-066700-VZ.

3. INVESTIGATIVE RESULTS AND FIELD OBSERVATIONS

3.1 Soil Conditions

The soil conditions encountered consisted generally of dense to hard, dry to moist, light-brown to dark-brown, fine to coarse sand. Groundwater was not encountered in hand auger borings.

3.2 Analytical Laboratory Results

A summary of the results of the laboratory analyses for total lead, soluble lead using the WET methods, and pH is presented in Table I. Reproductions of the laboratory reports and chain-of-custody documentation are presented as Appendix B.

3.2.1 Total Lead

Eighty-seven samples were analyzed for total lead. Concentrations ranged from 11 mg/kg to 2,898 mg/kg. Eleven samples exhibited total lead concentrations greater than 1,000 mg/kg.

3.2.2 Soluble Lead

Forty-nine samples exhibited total lead concentrations greater than 50 mg/kg and less than 1,000 mg/kg, and were analyzed using the WET citric method. Concentrations ranged from below method detection limits to 69 mg/l. Four randomly chosen soil samples exhibiting soluble lead WET concentrations greater than the Soluble Threshold Limit Concentration (STLC) of 5.0 mg/l were analyzed for soluble lead using the WET-DI method. In addition, eighteen randomly chosen samples from the entire sample set were analyzed for soluble lead using the WET-DI method. The twenty-two samples analyzed exhibited concentrations ranging from below the method detection limit to 4.7 mg/l. Refer to Appendix B for method detection limits.

3.2.3 pH

Nine samples were tested for pH. Values ranged from 5.1 to 8.9.

3.3 Data Validation

Prior to submitting the soil samples to the laboratory, the chain-of-custody documentation was reviewed for accuracy and completeness. The laboratory reports were reviewed for accuracy and consistency with chain-of-custody documentation. The matrix-spikes and duplicates were reviewed to ensure the laboratory results were within tolerance control limits. Based upon this validation process, the data quality is adequate for the purposes of this report.

4. STATISTICAL DATA EVALUATION

The analytical laboratory results from the boring locations were evaluated statistically to determine the best method of reuse or off-site disposal of the soil. The statistical methods used are provided in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* found in chapter nine of SW-846, 3rd edition, U.S. Environmental Protection Agency, 1986.

Statistical methods were applied to the lead data set collected adjacent to the site to evaluate: 1) if the total lead data is normally or lognormally distributed (by comparison of the mean and the variance); 2) the one-sided upper confidence limits (UCLs) on the true means of the total lead concentrations for three different soil mixing scenarios; and 3) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs.

The one-sided 80% and 95% upper UCLs of the true mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 80% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the true mean concentration are used as the mean concentrations because it is not possible to know the true mean. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease and the UCLs move closer to the true mean.

According to a Caltrans document dated January 20, 1997, an 80% UCL is satisfactory if the soil is to be reused, a 95% UCL should be used if soil is to be used off-site or relinquished to a contractor.

Since the total lead concentrations decrease with depth, different soil mixing scenarios were considered and hence, different UCLs were calculated. First, the data were divided into the following data sets:

- Total lead concentrations for soil samples collected from 0 to 0.15 meters (Data Set A);
- Total lead concentrations for soil samples collected from 0.15 to 0.30 meters (Data Set B);
- Total lead concentrations for soil samples collected from 0.30 to 0.60 meters (Data Set C).

Using the data sets above, the following UCLs for the true means were calculated. Note that to obtain conservative UCLs the data set corresponding with the cut-off depth was used when calculating the UCLs for both the upper and lower soil mixing scenarios.

- UCL for the top 0.15 m of soil (Data Set A) and the UCL for the underlying soil (Data Sets A, B, and C);

- UCL for the top 0.30 m of soil (Data Sets A and B) and the UCL for the underlying soil (Data Sets B and C);
- UCL for the entire 0.60 m soil column (Data Sets A, B, and C).

The UCLs and corresponding soil mixing scenarios are shown in the Block Diagrams presented as a portion of Appendix C.

5. CONCLUSIONS

Laboratory analytical results and statistical analysis of lead concentrations indicated that based upon the 80% lognormal UCL and predicted soluble lead concentrations, the upper 0.30 meters of soil excavated from the site is suitable for reuse in Caltrans right-of-ways according to the DTSC Lead Variance. Based on the 95% normal UCL and predicted soluble lead concentrations, the upper 0.60 meters of soil excavated from the site has the potential to be classified as a hazardous waste according to the DTSC Lead Variance. The average WET-DI concentration of the samples analyzed exceeds 0.5 mg/l.

6. RECOMMENDATIONS

Geocon recommends that if the soil excavated along the shoulders of the roadway is to be reused on-site, the upper 0.30 meters of soil be placed under pavement and at least 1.5 meters above the maximum groundwater level in accordance with the DTSC Lead Variance. Geocon recommends that Caltrans notify the contractors performing the construction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead. If the excavated soil is to be disposed, it should be handled as a hazardous material with respect to lead content.

7. REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information obtained is only relevant as of the date of the latest site visit. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The appropriate regulatory agency may require additional investigations. The findings and conclusions as presented in this report are predicated on the results of the limited soil sampling and laboratory analyses performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein.

Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the report is implied within the intent of this report or any subsequent reports, correspondence, or consultation, either express or implied. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.

TABLE I
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth in Meters	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead - WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead WET-DI Water EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B1-S	0.15	241	18	---	---
B1-1	0.30	11	---	---	---
B1-2	0.60	68	ND	---	---
B2-S	0.15	355	24	---	---
B2-1	0.30	440	25	---	---
B2-2	0.60	13	---	---	---
B3-S	0.15	242	18	---	---
B3-1	0.30	35	---	---	---
B4-S	0.15	696	38	4.7/0.86*	---
B4-1	0.30	12	---	---	8.1
B4-2	0.60	14	---	---	---
B5-S	0.15	205	9.1	---	---
B5-1	0.30	51	ND	---	---
B6-S	0.15	729	42	---	---
B6-1	0.30	16	---	---	---
B6-2	0.60	20	---	---	---
B7-S	0.15	179	15	0.92	---
B7-1	0.30	64	4.1	---	---
B7-2	0.60	116	15	1.2	---
B8-S	0.15	1,834	---	---	7.1
B8-1	0.30	1,341	---	---	---
B8-2	0.60	55	ND	---	---
B9-S	0.15	1,068	---	1.5	---
B9-1	0.30	31	---	ND	---
B10-S	0.15	1,074	---	---	---
B10-1	0.30	1,011	---	---	---
B10-2	0.60	889	51	ND	---
B11-S	0.15	484	24	---	---
B11-1	0.30	74	7.2	---	---
B11-2	0.60	22	---	---	5.1
B12-S	0.15	612	32	---	---
B12-1	0.30	56	ND	---	---
B12-2	0.60	84	3.4	---	---

TABLE I (continued)
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth in Meters	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead - WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead WET-DI Water EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B13-S	0.15	363	15	---	---
B13-1	0.30	84	ND	0.23	---
B13-2	0.60	37	---	---	---
B14-S	0.15	409	31	---	---
B14-1	0.30	48	---	---	---
B14-2	0.60	36	---	---	---
B15-S	0.15	125	6.4	---	5.9
B15-1	0.30	25	---	---	---
B15-2	0.60	13	---	---	---
B16-S	0.15	97	6.2	0.40	---
B16-1	0.30	54	ND	0.37	---
B16-2	0.60	24	---	ND	---
B17-S	0.15	54	ND	---	---
B17-1	0.30	360	33	---	---
B17-2	0.60	691	69	ND	---
B18-S	0.15	123	9.2	1.4	---
B18-1	0.30	35	---	---	8.9
B18-2	0.60	52	ND	---	---
B19-S	0.15	86	3.4	---	---
B19-1	0.30	41	---	ND	---
B19-2	0.60	60	6.2	---	---
B20-S	0.15	2,898	---	---	---
B20-1	0.30	46	---	---	---
B20-2	0.60	38	---	ND	---
B21-S	0.15	832	56	---	---
B21-1	0.30	26	---	0.21	---
B21-2	0.60	53	ND	---	8.0
B22-S	0.15	1,686	---	---	---
B22-1	0.30	128	7.6	ND	---
B22-2	0.60	215	17	---	---
B23-S	0.15	295	22	0.31	---
B23-1	0.30	69	3.8	---	---
B23-2	0.60	31	---	---	---

TABLE I (continued)
SUMMARY OF ANALYTICAL LABORATORY RESULTS

Sample ID	Depth in Meters	Total Lead EPA Test Method 6010 (mg/kg)	Soluble Lead - WET Citric EPA Test Method 7420 (mg/l)	Soluble Lead WET-DI Water EPA Test Method 7420 (mg/l)	Soil pH EPA Test Method 9045
B24-S	0.15	88	4.7	---	---
B24-1	0.30	31	---	---	---
B24-2	0.60	54	ND	---	---
B25-S	0.15	222	12	---	8.3
B25-1	0.30	26	---	---	---
B25-2	0.60	31	---	0.33	---
B26-S	0.15	687	51	4.4	---
B26-1	0.30	118	9.4	0.15	---
B26-2	0.60	25	---	---	---
B27-S	0.15	1,409	---	---	---
B27-1	0.30	100	4.9	---	---
B27-2	0.60	27	---	---	---
B28-S	0.15	2,694	---	---	---
B28-1	0.30	296	19	---	7.8
B28-2	0.60	162	9.6	---	---
B29-S	0.15	1,556	---	1.7	---
B29-1	0.30	111	7.0	---	---
B29-2	0.60	24	---	---	---
B30-S	0.15	1,126	---	---	---
B30-1	0.30	116	7.3	---	---
B30-2	0.60	491	32	---	8.5

Notes:

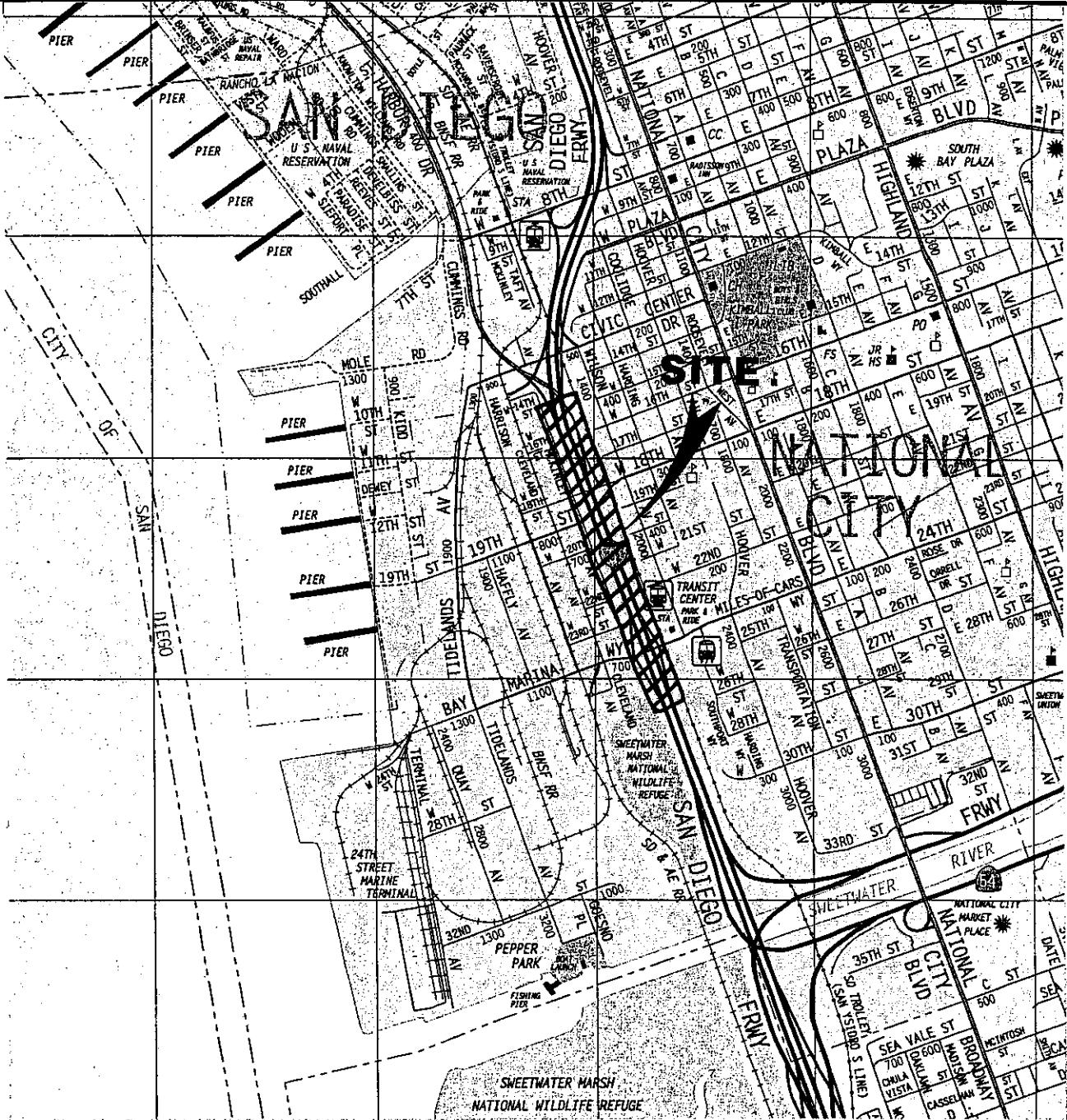
mg/kg = milligrams per kilogram

mg/l = milligrams per liter

--- = analysis not performed

EPA = United States Environmental Protection Agency

* = sample was randomly selected for WET-DI analysis twice. Second analysis not from same aliquot. Both results reported.



SOURCE : 2001 THOMAS BROTHERS MAP
SAN DIEGO COUNTY, CALIFORNIA

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NO SCALE

GEOCON
CONSULTANTS, INC.



ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 858 558-6100 - FAX 858 558-8437

TWL / JMW

DSK / E0000

VICINITY MAP

ROUTE 5 - 24TH STREET TO HARBOR DRIVE
NATIONAL CITY, CALIFORNIA

DATE 06-27-2001

PROJECT NO. 08900 - 06 - 108 FIG. 1

BORING LOCATION MAP - ROUTE 5
24TH STREET TO HARBOR DRIVE
NATIONAL CITY, CALIFORNIA

GEOCON
CONSULTANTS INCORPORATED
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2974
PHONE 619.558-6100 FAX 619.558-8437

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE NOTED

Scale: 1:2000

Legend: 1.00m, 2.00m, 3.00m, 4.00m, 5.00m, 6.00m, 7.00m, 8.00m, 9.00m, 10.00m, 11.00m, 12.00m, 13.00m, 14.00m, 15.00m, 16.00m, 17.00m, 18.00m, 19.00m, 20.00m, 21.00m, 22.00m, 23.00m, 24.00m, 25.00m, 26.00m, 27.00m, 28.00m, 29.00m, 30.00m, 31.00m, 32.00m, 33.00m, 34.00m, 35.00m, 36.00m, 37.00m, 38.00m, 39.00m, 40.00m, 41.00m, 42.00m, 43.00m, 44.00m, 45.00m, 46.00m, 47.00m, 48.00m, 49.00m, 50.00m, 51.00m, 52.00m, 53.00m, 54.00m, 55.00m, 56.00m, 57.00m, 58.00m, 59.00m, 60.00m, 61.00m, 62.00m, 63.00m, 64.00m, 65.00m, 66.00m, 67.00m, 68.00m, 69.00m, 70.00m, 71.00m, 72.00m, 73.00m, 74.00m, 75.00m, 76.00m, 77.00m, 78.00m, 79.00m, 80.00m, 81.00m, 82.00m, 83.00m, 84.00m, 85.00m, 86.00m, 87.00m, 88.00m, 89.00m, 90.00m, 91.00m, 92.00m, 93.00m, 94.00m, 95.00m, 96.00m, 97.00m, 98.00m, 99.00m, 100.00m.

RECOMMENDATIONS FOR REUSE

RECOMMENDATIONS FOR REUSE

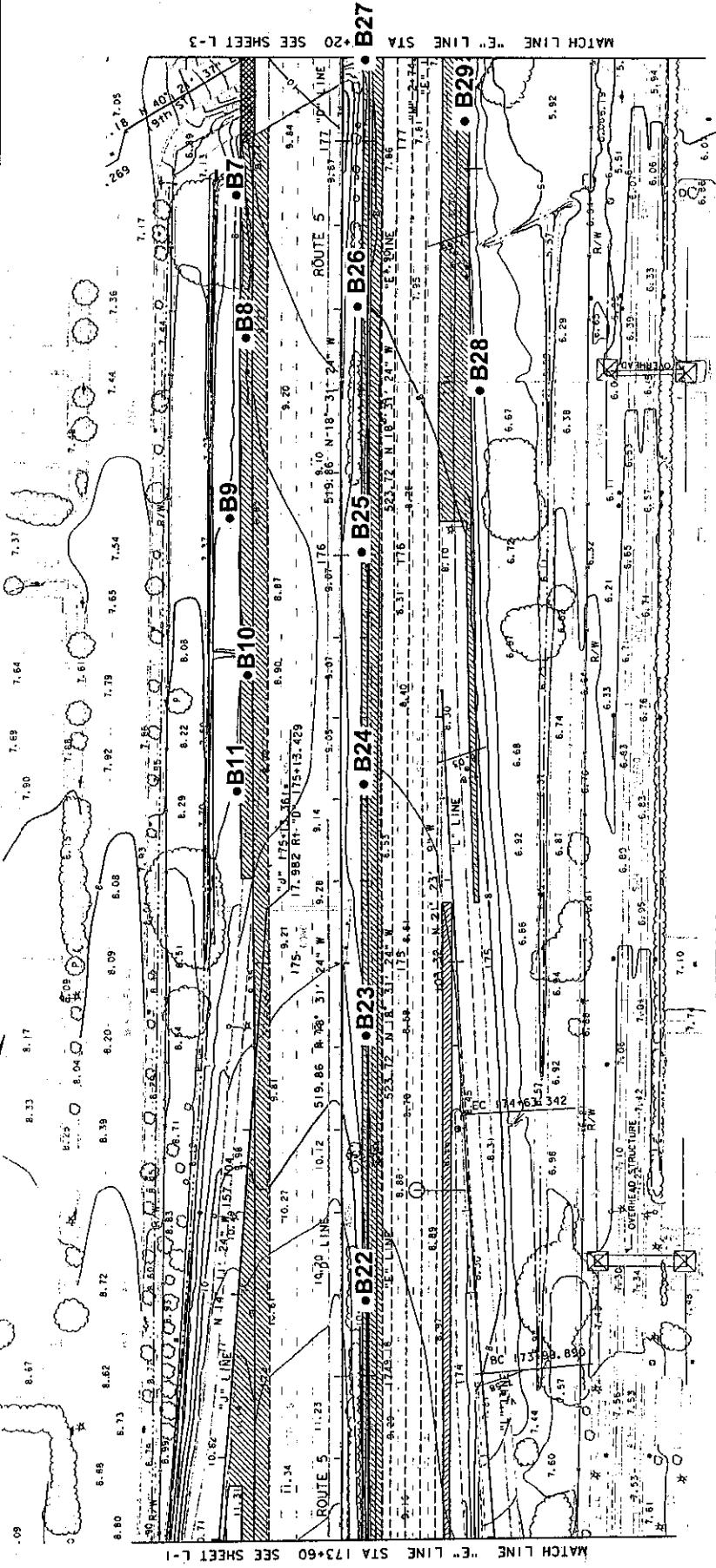
Geocon recommends that if the soil excavated along the shoulders of the roadway is to be reused on-site, the upper 0.30 meters of soil be placed under pavement, and at least 1.5 meters above the maximum groundwater level in accordance with the DTSC Lead Variance. Geocon recommends that Caltrans notify the contractors performing the construction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead. If the excavated soil is to be disposed, it should be handled as hazardous material with respect to lead content.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE

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EA 63333

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RECOMMENDATIONS FOR REUSE

Geocon recommends that if the soil excavated along the shoulders of the roadway is to be reused on-site, the upper 0.30 meters of soil be placed under pavement, and at least 1.5 meters above the maximum groundwater level in accordance with the DTSC Lead Variance. Geocon recommends that Caltrans notify the contractors performing the reconstruction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead. If the excavated soil is to be disposed, it should be handled as a hazardous material with respect to lead content.

BORING LOCATION MAP - ROUTE 5
24TH STREET TO HARBOR DRIVE
NATIONAL CITY, CALIFORNIA

GEOCON CONSULTANTS INCORPORATED PROJECT NO. 08900-06-1

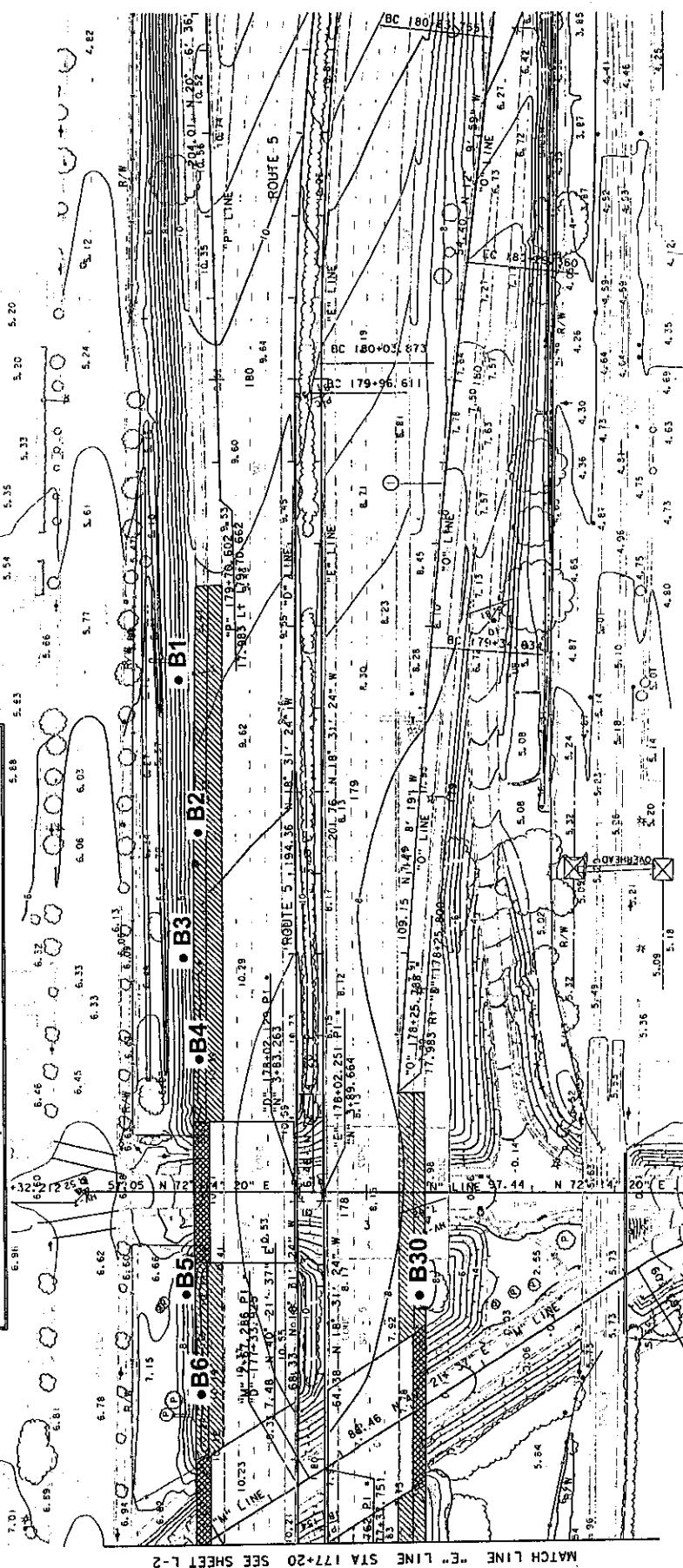
6970 FLANDERS DRIVE - SAN DIEGO, CALIFORNIA 92121-2914
PHONE 858.558-6100 • FAX 858.558-8437
FIGURE 2, PLATE 2
DATE: 06-27-2001

DIST	COUNTY	ROUTE	KILOMETER POST	SHEET LOCAL
				SECTION


Caltrans
 REGISTERED CIVIL ENGINEER
 PLANS APPROVAL DATE
 The State of California or its officers or agents, or contractors or subcontractors, do not necessarily accept or approve the contents of this plan.
 Caltrans (or its a web site) To get to the web site go to <http://www.dot.ca.gov>

RECOMMENDATIONS FOR REUSE

Geocon recommends that if the soil excavated along the shoulders of the roadway is to be reused on-site, the upper 0.30 meters of soil be placed under pavement, and at least 1.5 meters above the maximum groundwater level in accordance with the DTSC Lead Variance. Caltrans recommends that contractors performing the construction activities that hazardous concentrations of lead may be present in on-site soil and that appropriate health and safety measures should be taken to minimize the exposure to lead. If the excavated soil is to be disposed, it should be handled as a hazardous material with respect to lead content.



BORING LOCATION MAP - ROUTE 5
 24TH STREET TO HARBOR DRIVE
 NATIONAL CITY, CALIFORNIA

GEOCON
 CONSULTANTS INCORPORATED
 6870 FLANDERS DRIVE, SAN DIEGO, CALIFORNIA 92121-2574
 PHONE 658-558-6100, FAX 658-558-6457

PROJECT NO. 08900-06-108
FIGURE 2, PLATE 3
DATE: 08-27-2001

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE

SCALE INDICATED IN MILLIMETERS

UNLESS OTHERWISE STATED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT NUMBER	PROJECT ENGINEER	DESIGN ENGINEER	DATE REVISED BY	DATE CHECKED BY	DATE APPROVED BY
Caltrans						

APPENDIX

A

APPENDIX A

GEOCON CONSULTANTS INCORPORATED STANDARD OPERATING PROCEDURE (SOP) NO. 11 HAND-AUGERING AND SOIL SAMPLE COLLECTION

Purpose

The purpose of this SOP is to outline procedures and methods to be used to advance hand-augers and collect soil samples for chemical analyses.

Hand-Augering and Soil Sample Collection Procedures

1. Initiate boring using a hand-held 7.62 centimeter diameter stainless steel auger.
2. Advance boring to initial sample depth of approximately 0 to 0.15 meters below the ground surface.
3. Transfer the soil sample from the hand-auger into a glass jar supplied by the laboratory.
4. Repeat the procedure and collect soil samples at subsequent depths as specified in the Task Order, if possible.
5. Backfill the borings to surface grade with soil cuttings generated.
6. Clean and rinse sampling equipment prior to the collection of each soil sample by washing the equipment with a trisodium phosphate solution followed by subsequent tap water and deionized water rinses.

APPENDIX A (continued)

GEOCON CONSULTANTS INCORPORATED STANDARD OPERATING PROCEDURE (SOP) NO. 31 SOIL SAMPLE HANDLING PROCEDURES

Purpose

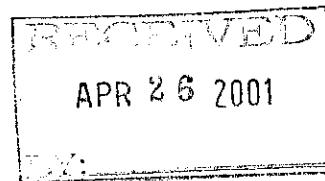
The purpose of this SOP is to outline procedures and methods to be used to package and transport soil samples to an analytical laboratory.

Soil Sample Handling Procedures

1. Soil samples will be retrieved directly from the hand auger.
2. After extracting the sample from the auger, the soil sample will be placed in laboratory supplied glass jars with Teflon-lined lids.
3. Sample labels will be placed on the outside of the jar to indicate the boring number and from what depth the sample was obtained, the time the sample was obtained, and the date the sample was obtained.
4. Each prepared sample jar will be placed into a container for transport to Advanced Technology Laboratories.

APPENDIX

B



April 04, 2001

Tim Leonard
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX (858) 558-8437

ELAP No: 1838

RE: Rte 5-Harbor to Main - 08900-06-108

Work Order No.: 050348

Attention: Tim Leonard

Enclosed are the results for sample(s) received on March 30, 2001 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Edgar Caballero
Laboratory Director

This cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Geocon Environmental

Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

Date Digested: 3/30/01

Digestion Method: EPA 3051

Lab No.	Sample I.D.	Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst
050348-001	B1-S	EPA 7420 (Lead)	04/02/01	241	Soil, mg/kg	3.0	3.0	KR
050348-002	B1-1	EPA 7420 (Lead)	04/02/01	11	Soil, mg/kg	3.0	3.0	KR
050348-003	B1-2	EPA 7420 (Lead)	04/02/01	68	Soil, mg/kg	3.0	3.0	KR
050348-004	B2-S	EPA 7420 (Lead)	04/02/01	355	Soil, mg/kg	3.0	15.0	KR
050348-005	B2-1	EPA 7420 (Lead)	04/02/01	440	Soil, mg/kg	3.0	3.0	KR
050348-006	B2-2	EPA 7420 (Lead)	04/02/01	13	Soil, mg/kg	3.0	3.0	KR
050348-007	B3-S	EPA 7420 (Lead)	04/02/01	242	Soil, mg/kg	3.0	15.0	KR
050348-008	B3-1	EPA 7420 (Lead)	04/02/01	35	Soil, mg/kg	3.0	3.0	KR
050348-009	B4-S	EPA 7420 (Lead)	04/02/01	696	Soil, mg/kg	3.0	3.0	KR
050348-010	B4-1	EPA 7420 (Lead)	04/02/01	12	Soil, mg/kg	3.0	3.0	KR
050348-011	B4-2	EPA 7420 (Lead)	04/02/01	14	Soil, mg/kg	3.0	3.0	KR
050348-012	B5-S	EPA 7420 (Lead)	04/02/01	205	Soil, mg/kg	3.0	3.0	KR
050348-013	B5-1	EPA 7420 (Lead)	04/02/01	51	Soil, mg/kg	3.0	3.0	KR
050348-014	B6-S	EPA 7420 (Lead)	04/02/01	729	Soil, mg/kg	3.0	3.0	KR
050348-015	B6-1	EPA 7420 (Lead)	04/02/01	16	Soil, mg/kg	3.0	3.0	KR
050348-016	B6-2	EPA 7420 (Lead)	04/02/01	20	Soil, mg/kg	3.0	3.0	KR
050348-017	B7-S	EPA 7420 (Lead)	04/02/01	179	Soil, mg/kg	3.0	3.0	KR
050348-018	B7-1	EPA 7420 (Lead)	04/02/01	64	Soil, mg/kg	3.0	3.0	KR
050348-019	B7-2	EPA 7420 (Lead)	04/02/01	116	Soil, mg/kg	3.0	3.0	KR
050348-020	B8-S	EPA 7420 (Lead)	04/02/01	1834	Soil, mg/kg	3.0	3.0	KR

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials: PL
1



cover letter is an integral part of this analytical report.
Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Geocon Environmental

Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

Date Digested: 3/30/01

Digestion Method: EPA 3051

Lab No.		Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst
050348-021	B8-1	EPA 7420 (Lead)	04/02/01	1341	Soil, mg/kg	3.0	3.0	KR
050348-022	B8-2	EPA 7420 (Lead)	04/02/01	55	Soil, mg/kg	3.0	3.0	KR
050348-023	B9-S	EPA 7420 (Lead)	04/02/01	1068	Soil, mg/kg	3.0	15.0	KR
050348-024	B9-1	EPA 7420 (Lead)	04/02/01	31	Soil, mg/kg	3.0	3.0	KR
050348-025	B10-S	EPA 7420 (Lead)	04/02/01	1074	Soil, mg/kg	3.0	3.0	KR
050348-026	B10-1	EPA 7420 (Lead)	04/02/01	1011	Soil, mg/kg	3.0	3.0	KR
050348-027	B10-2	EPA 7420 (Lead)	04/02/01	889	Soil, mg/kg	3.0	15.0	KR
050348-028	B11-S	EPA 7420 (Lead)	04/02/01	484	Soil, mg/kg	3.0	3.0	KR
050348-029	B11-1	EPA 7420 (Lead)	04/02/01	74	Soil, mg/kg	3.0	3.0	KR
050348-030	B11-2	EPA 7420 (Lead)	04/02/01	22	Soil, mg/kg	3.0	3.0	KR
050348-031	B12-S	EPA 7420 (Lead)	04/02/01	612	Soil, mg/kg	3.0	3.0	KR
050348-032	B12-1	EPA 7420 (Lead)	04/02/01	56	Soil, mg/kg	3.0	3.0	KR
050348-033	B12-2	EPA 7420 (Lead)	04/02/01	84	Soil, mg/kg	3.0	3.0	KR
050348-034	B13-S	EPA 7420 (Lead)	04/02/01	363	Soil, mg/kg	3.0	3.0	KR
050348-035	B13-1	EPA 7420 (Lead)	04/02/01	84	Soil, mg/kg	3.0	3.0	KR
050348-036	B13-2	EPA 7420 (Lead)	04/02/01	37	Soil, mg/kg	3.0	3.0	KR
050348-037	B14-S	EPA 7420 (Lead)	04/02/01	409	Soil, mg/kg	3.0	3.0	KR
050348-038	B14-1	EPA 7420 (Lead)	04/02/01	48	Soil, mg/kg	3.0	3.0	KR
050348-039	B14-2	EPA 7420 (Lead)	04/02/01	36	Soil, mg/kg	3.0	3.0	KR
050348-040	B15-S	EPA 7420 (Lead)	04/02/01	125	Soil, mg/kg	3.0	3.0	KR

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials: Q
2

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: **Geocon Environmental**
Attn: **Tim Leonard**

Client's Project: **Rte 5-Harbor to Main, 08900-06-108**

Date Received: **3/29/01**

Date Sampled: **3/28/01**

Date Digested: **3/30/01**

Digestion Method: **EPA 3051**

Lab No.		Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst
050348-041	B15-1	EPA 7420 (Lead)	04/02/01	25	Soil, mg/kg	3.0	3.0	KR
050348-042	B15-2	EPA 7420 (Lead)	04/02/01	13	Soil, mg/kg	3.0	3.0	KR
050348-043	B16-S	EPA 7420 (Lead)	04/02/01	97	Soil, mg/kg	3.0	15.0	KR
050348-044	B16-1	EPA 7420 (Lead)	04/02/01	54	Soil, mg/kg	3.0	3.0	KR
050348-045	B16-2	EPA 7420 (Lead)	04/02/01	24	Soil, mg/kg	3.0	3.0	KR
050348-046	B17-S	EPA 7420 (Lead)	04/02/01	54	Soil, mg/kg	3.0	3.0	KR
050348-047	B17-1	EPA 7420 (Lead)	04/02/01	360	Soil, mg/kg	3.0	15.0	KR
050348-048	B17-2	EPA 7420 (Lead)	04/02/01	691	Soil, mg/kg	3.0	3.0	KR
050348-049	B18-S	EPA 7420 (Lead)	04/02/01	123	Soil, mg/kg	3.0	3.0	KR
050348-050	B18-1	EPA 7420 (Lead)	04/02/01	35	Soil, mg/kg	3.0	3.0	KR
050348-051	B18-2	EPA 7420 (Lead)	04/02/01	52	Soil, mg/kg	3.0	3.0	KR
050348-052	B19-S	EPA 7420 (Lead)	04/02/01	86	Soil, mg/kg	3.0	3.0	KR
050348-053	B19-1	EPA 7420 (Lead)	04/02/01	41	Soil, mg/kg	3.0	3.0	KR
050348-054	B19-2	EPA 7420 (Lead)	04/02/01	60	Soil, mg/kg	3.0	3.0	KR
050348-055	B20-S	EPA 7420 (Lead)	04/02/01	2898	Soil, mg/kg	3.0	3.0	KR
050348-056	B20-1	EPA 7420 (Lead)	04/02/01	46	Soil, mg/kg	3.0	3.0	KR
050348-057	B20-2	EPA 7420 (Lead)	04/02/01	38	Soil, mg/kg	3.0	3.0	KR
050348-058	B21-S	EPA 7420 (Lead)	04/02/01	832	Soil, mg/kg	3.0	3.0	KR
050348-059	B21-1	EPA 7420 (Lead)	04/02/01	26	Soil, mg/kg	3.0	3.0	KR
050348-060	B21-2	EPA 7420 (Lead)	04/02/01	53	Soil, mg/kg	3.0	3.0	KR

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials: DL

3

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Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Geocon Environmental

Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

Date Digested: 3/30/01

Digestion Method: EPA 3051

Lab No.	Sample I.D.	Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst
050348-061	B22-S	EPA 7420 (Lead)	04/02/01	1686	Soil, mg/kg	3.0	3.0	KR
050348-062	B22-1	EPA 7420 (Lead)	04/02/01	128	Soil, mg/kg	3.0	3.0	KR
050348-063	B22-2	EPA 7420 (Lead)	04/02/01	215	Soil, mg/kg	3.0	15.0	KR
050348-064	B23-S	EPA 7420 (Lead)	04/02/01	295	Soil, mg/kg	3.0	3.0	KR
050348-065	B23-1	EPA 7420 (Lead)	04/02/01	69	Soil, mg/kg	3.0	3.0	KR
050348-066	B23-2	EPA 7420 (Lead)	04/02/01	31	Soil, mg/kg	3.0	3.0	KR
050348-067	B24-S	EPA 7420 (Lead)	04/02/01	88	Soil, mg/kg	3.0	15.0	KR
050348-068	B24-1	EPA 7420 (Lead)	04/02/01	31	Soil, mg/kg	3.0	3.0	KR
050348-069	B24-2	EPA 7420 (Lead)	04/02/01	54	Soil, mg/kg	3.0	3.0	KR
050348-070	B25-S	EPA 7420 (Lead)	04/02/01	222	Soil, mg/kg	3.0	3.0	KR
050348-071	B25-1	EPA 7420 (Lead)	04/02/01	26	Soil, mg/kg	3.0	3.0	KR
050348-072	B25-2	EPA 7420 (Lead)	04/02/01	31	Soil, mg/kg	3.0	3.0	KR
050348-073	B26-S	EPA 7420 (Lead)	04/02/01	687	Soil, mg/kg	3.0	3.0	KR
050348-074	B26-1	EPA 7420 (Lead)	04/02/01	118	Soil, mg/kg	3.0	3.0	KR
050348-075	B26-2	EPA 7420 (Lead)	04/02/01	25	Soil, mg/kg	3.0	3.0	KR
050348-076	B27-S	EPA 7420 (Lead)	04/02/01	1409	Soil, mg/kg	3.0	3.0	KR
050348-077	B27-1	EPA 7420 (Lead)	04/02/01	100	Soil, mg/kg	3.0	3.0	KR
050348-078	B27-2	EPA 7420 (Lead)	04/02/01	27	Soil, mg/kg	3.0	3.0	KR
050348-079	B28-S	EPA 7420 (Lead)	04/02/01	2694	Soil, mg/kg	3.0	6.0	KR
050348-080	B28-1	EPA 7420 (Lead)	04/02/01	296	Soil, mg/kg	3.0	3.0	KR

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials: LL
4

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Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: **Geocon Environmental**

Attn: **Tim Leonard**

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

Date Digested: 3/30/01

Digestion Method: EPA 3051

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials: JW



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Advanced Technology
Laboratories

3275 Walnut Avenue, Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Method Bank Sprühdüse V

Method:	EPA 7420	Date:	04/02/01
Analyst:	KR	Matrix:	Soil
Analyte:	Pb	QC Batch:	010402-1

1



Digitized by Google

Method: EPA 7420 Date: 04/02/01
Analyst: KR Matrix: Soil
Institute: Ph QC Batch: 010402-1

Initials:



Predictive and PPD Summary Report

Method:	EPA 7420	Date:	04/02/01
Analyst:	KR	Matrix:	Soil
Analyte:	Pb	QC Batch:	010402-1

ANALYTE	UNITS	SPL CONC	SPK ADDED	MS RESULT	%MS REC	% REC LIMIT
50348-010	mg/Kg	12	250	243	92	54:124
50348-020	mg/Kg	1834	250	2188	141	54:124
50348-030	mg/Kg	22	250	256	93	54:124
50348-040	mg/Kg	124.75	250	394	108	54:124
50348-050	mg/Kg	34.75	250	263	91	54:124
50348-060	mg/Kg	53	250	289	98	54:124
50348-070	mg/Kg	222	250	361	56	54:124
50348-080	mg/Kg	296	250	463	67	54:124
50348-087	mg/Kg	471.75	250	18	181	54:124

3

CS-Symmetry

Method: EPA 7420 Date: 04/02/01
Analyst: KR Matrix: Soil
Analvie: P QC Batch: 0109402-1

Initials:



Client: Geocon Environmental
Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01
Date Sampled: 3/28/01

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials: CG



This cover letter is an integral part of this analytical report.

Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Duplicate Summary

Method: EPA 9045 Date: 04/03/01
Analyst: KR Matrix: Soil
CNC Batch: 010403-1

一

Initials



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Geocon Environmental

Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

Date Amended: 04/18/01

Lab No.	Sample ID	Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst
050348-001	B1-S	EPA 7420 (STLC Lead)	04/06/01	18	STLC Extract, mg/L	3.0	6.0	KR
050348-003	B1-2	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-004	B2-S	EPA 7420 (STLC Lead)	04/06/01	24	STLC Extract, mg/L	3.0	12.0	KR
050348-005	B2-1	EPA 7420 (STLC Lead)	04/06/01	25	STLC Extract, mg/L	3.0	12.0	KR
050348-007	B3-S	EPA 7420 (STLC Lead)	04/06/01	18	STLC Extract, mg/L	3.0	6.0	KR
050348-009	B4-S	EPA 7420 (STLC Lead)	04/06/01	38	STLC Extract, mg/L	3.0	12.0	KR
050348-012	B5-S	EPA 7420 (STLC Lead)	04/06/01	9.1	STLC Extract, mg/L	3.0	3.0	KR
050348-013	B5-1	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-014	B6-S	EPA 7420 (STLC Lead)	04/06/01	42	STLC Extract, mg/L	3.0	15.0	KR
050348-017	B7-S	EPA 7420 (STLC Lead)	04/06/01	15	STLC Extract, mg/L	3.0	6.0	KR
050348-018	B7-1	EPA 7420 (STLC Lead)	04/06/01	4.1	STLC Extract, mg/L	3.0	3.0	KR
050348-019	B7-2	EPA 7420 (STLC Lead)	04/06/01	15	STLC Extract, mg/L	3.0	6.0	KR
050348-022	B8-2	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-027	B10-2	EPA 7420 (STLC Lead)	04/06/01	51	STLC Extract, mg/L	3.0	15.0	KR
050348-028	B11-S	EPA 7420 (STLC Lead)	04/06/01	24	STLC Extract, mg/L	3.0	12.0	KR
050348-029	B11-1	EPA 7420 (STLC Lead)	04/06/01	7.2	STLC Extract, mg/L	3.0	3.0	KR
050348-031	B12-S	EPA 7420 (STLC Lead)	04/06/01	32	STLC Extract, mg/L	3.0	12.0	KR
050348-032	B12-1	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-033	B12-2	EPA 7420 (STLC Lead)	04/06/01	3.4	STLC Extract, mg/L	3.0	3.0	KR
050348-034	B13-S	EPA 7420 (STLC Lead)	04/06/01	15	STLC Extract, mg/L	3.0	6.0	KR

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials:  1



The letter is an integral part of this analytical report.
Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Geocon Environmental

Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

Lab No.		Analysis	Date Analyzed	Results	Matrix Units	MDL	DLR	Analyst
050348-035	B13-1	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-037	B14-S	EPA 7420 (STLC Lead)	04/06/01	31	STLC Extract, mg/L	3.0	12.0	KR
050348-040	B15-S	EPA 7420 (STLC Lead)	04/06/01	6.4	STLC Extract, mg/L	3.0	3.0	KR
050348-043	B16-S	EPA 7420 (STLC Lead)	04/06/01	6.2	STLC Extract, mg/L	3.0	3.0	KR
050348-044	B16-1	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-046	B17-S	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-047	B17-1	EPA 7420 (STLC Lead)	04/06/01	33	STLC Extract, mg/L	3.0	12.0	KR
050348-048	B17-2	EPA 7420 (STLC Lead)	04/06/01	69	STLC Extract, mg/L	3.0	24.0	KR
050348-049	B18-S	EPA 7420 (STLC Lead)	04/06/01	9.2	STLC Extract, mg/L	3.0	3.0	KR
050348-051	B18-2	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-052	B19-S	EPA 7420 (STLC Lead)	04/06/01	3.4	STLC Extract, mg/L	3.0	3.0	KR
050348-054	B19-2	EPA 7420 (STLC Lead)	04/06/01	6.2	STLC Extract, mg/L	3.0	3.0	KR
050348-058	B21-S	EPA 7420 (STLC Lead)	04/06/01	56	STLC Extract, mg/L	3.0	24.0	KR
050348-060	B21-2	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR
050348-062	B22-1	EPA 7420 (STLC Lead)	04/06/01	7.6	STLC Extract, mg/L	3.0	3.0	KR
050348-063	B22-2	EPA 7420 (STLC Lead)	04/06/01	17	STLC Extract, mg/L	3.0	6.0	KR
050348-064	B23-S	EPA 7420 (STLC Lead)	04/06/01	22	STLC Extract, mg/L	3.0	9.0	KR
050348-065	B23-1	EPA 7420 (STLC Lead)	04/06/01	3.8	STLC Extract, mg/L	3.0	3.0	KR
050348-067	B24-S	EPA 7420 (STLC Lead)	04/06/01	4.7	STLC Extract, mg/L	3.0	3.0	KR
050348-069	B24-2	EPA 7420 (STLC Lead)	04/06/01	ND	STLC Extract, mg/L	3.0	3.0	KR

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initials:

2

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Client: Geocon Environmental

Attn: **Tim Leonard**

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

The cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Initials:

Method Blank Screening

Method: EPA 7420 **Date:** 04/06/01
Analyst: KR **Matrix:** STLC Extract
Analyzer: PH **QC Batch:** 01/0405-2

ANALYTE	UNITS	METHOD CONC
Method Blank(Sp1-1-20)	mg/L	ND
Method Blank(Sp1-21-40)	mg/L	ND
Method Blank(Sp1-40-49)	mg/L	ND

Initials:



Dissertate Sustainability

Method:	EPA 7420	Date:	04/06/01
Analyst:	KR	Matrix:	STLC Extract
		QC Barter:	Q10406-2

2



Spike Recovery and RPD Summary Report

Method:	EPA 7420	Date:	04/06/01
Analyst:	KR	Matrix:	STLC Extract
Analyte:	Pb	QC Batch:	010406-2

Date: 04/06/01 Matrix: STLC Extract D010406-2
QC Batch:

3



155

Method: EPA 7420 Date: 04/06/01
Analyst: KR Matrix: STLC Extract
Analyzer: PH QC Batch: 010406-2

4



Client: Geocon Environmental

Attn: Tim Leonard

Client's Project: Rte 5-Harbor to Main, 08900-06-108

Date Received: 3/29/01

Date Sampled: 3/28/01

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DF = Dilution Factor (DLR/MDL)

Initial



The *Journal* letter is an integral part of this analytical report.
Advanced Technology Laboratories

Method Blank Sanitary

Method: EPA 7420 **Date:** 04/11/01
Analyst: KR **Matrix:** STIC DI Extract
Analyst: Pb **QC Batch:** 010411-1

1

Initials:



Dental Supply

Method: EPA 7420 Date: 04/11/01
Analyst: KR Matrix: STLC DI Extract
Analyst: Ph QC Batch: 010411-1

 2



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Spike Recovery and RPD Summary Report

Method:	EPA 7420	Date:	04/11/01
Analyst:	KR	Matrix:	STLC DI Extract
Analyte:	Pb	QC Batch:	010411-1

3



CS 51000

Date: 04/11/01
Matrix: STLC DI Extract
QC Batch: 010411-1

ANALYTE	UNITS	LCS Conc	LCS Res	% Rec
LCS1(Spl 1-20)	mg/L	5.0	4.51	90
LCS2(Spl 21-33)	mg/L	5.0	4.70	94

4

initials.



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

CHAMIN OR US. ECO

Advanced Technology Laboratories		FOR LABORATORY USE ONLY:			
P.O.#:		Method of Transport		Sample Condition Upon Receipt	
1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040	Attn: Tim Leonard	<input type="checkbox"/> Walk-in	<input type="checkbox"/> Courier	<input type="checkbox"/> 1. CHILLED	<input type="checkbox"/> Y □ N □
Client: GEOCON ENVIRONMENTAL - SAN DIEGO	Project Name: Rte 5 - Harbor to Inland	<input type="checkbox"/> UPS	<input type="checkbox"/> FED. EXP.	<input type="checkbox"/> 2. HEADSPACE (VOA)	<input type="checkbox"/> Y □ N □ 5. # OF SPLS MATCH COC Y □ N □
Logged By: _____	Project #: 08100-06-108	<input type="checkbox"/> ATL		<input type="checkbox"/> 3. CONTAINER INTACT	<input type="checkbox"/> Y □ N □ 6. PRESERVED Y □ N □
Relinquished by: (Signature and Printed Name)	Date: 3-29-01	Time: _____	Received by: (Signature and Printed Name)	Date: 3/30/01	Time: 7:45 AM
Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)	Date: _____	Time: _____
Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)	Date: _____	Time: _____
Relinquished by: (Signature and Printed Name)	Date: _____	Time: _____	Received by: (Signature and Printed Name)	Date: _____	Time: _____
Special Instructions/Comments: total lead concentrations greater than 50 mg/kg and less than 1000 mg/kg test for soluble lead w/ citric acid as extractant for Hg via 7420. 10% of samples for QA/QC					
Send Report To:		Matrix			
Attn: Client	Co: _____	Address _____	City _____	Circle Appropriate	QA/QC
Date: _____	Address: _____	State: _____	Zip: _____	Container(s)	RTNE □
Signature _____	City: _____	State: _____	Zip: _____	DRINKING WATER	RWQCB □
Unless otherwise requested, all samples will be disposed 45 days after receipt.	Sample Archive/Disposal:	Circle or Add Analyses Requested	AIR □	WATER □	WIP □
Indicated below:	<input type="checkbox"/> Laboratory Standard	<input type="checkbox"/> PCBG	WASTEWATER □	NAVY □	CT <input checked="" type="checkbox"/>
Project Mgr/Submitter:	<input type="checkbox"/> Other	<input type="checkbox"/> QC	SLUDGE □	OTHER □	OTHER
Print Name _____	Return To:	<input type="checkbox"/> Return To:	OIL □	REMARKS	
* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.					
Sample Description					
Lab Use Only:	Sample I.D.	Date	Time		
T	Batch #:				
E	Lab No.	B1-S	10:24		
M		B1-B1	10:26		
1		B1-Z	10:28		
2		B2-S	10:29		
3		B2-1	10:32		
4		B2-2	10:35		
5		B3-S	10:39		
6		B3-1	10:43		
7		B4-S	10:44		
8		B4-1	10:48		
9					
10					
Preservatives: TAT: A= Overnight B= 24 hr C= Next workday		ROUTINE D= 3 Workdays E= 7 Workdays			
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar G=Glass P=Plastic M=Metal					
Emergency TAT starts 8 a.m. following day if samples received after 5 p.m.					

CHILD LANGUAGE

Advanced Technology Laboratories

1510 E. 33rd Street
Signal Hill, CA 90807
(562) 989-4045 • FAX (562) 989-4040

Client: GEOCON ENVIRONMENTAL - SAN DIEGO
Attm: Tim Lennard

Project Name: RR 5 - Harbor to Main
Inaugurated by: (Signature) *[Signature]* Date: *[Signature]*

Enriched by: (Signature and Printed Name)

<p>In distinguished by: (Signature and Printed Name)</p> <p>ATL hereby authorize ATL to perform the work indicated below.</p> <p>Project Manager/Submitter:</p>	<p>Send Report To:</p> <p>Attn: _____</p>
--	---

Co. _____ Date _____
Print Name _____

Address _____ City _____
Signature _____

Unless otherwise indicated, all employees

Sample Archive/Disposal:
 Laboratory Standard

Other _____
 Return To: _____

* \$10.00 FEE PER HAZARDOUS SUBSTANCES

Sample Description: Sample ID: Lab No: Batch #: Lab Use Only:

B8-1

289

39-9
36-1

3/10-5

B10 - 1

B10-2

$$B // -S$$

B11-2

TAT: A= Overnight
≤ 24 hr

FOR LABORATORY USE ONLY:		Sample Condition Upon Receipt	
Method of Transport			
Walk-in	<input type="checkbox"/>	1. CHILLED	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 4. SEALED
Courier	<input type="checkbox"/>	2. HEADSPACE (VOA)	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 5. # OF SPLS MATCH COC
UPS	<input type="checkbox"/>	3. CONTAINER INTACT	<input type="checkbox"/> Y <input type="checkbox"/> N <input checked="" type="checkbox"/> 6. PRESERVED
FED. EXP.	<input type="checkbox"/>		
ATI	<input type="checkbox"/>		
P.O.#:		Date:	Time:
Logged By:			

SAN DIEGO		Address: 6970 Flanders Drive City San Diego		State CA	Zip Code 92121	TEL: (619) 558-6100
Project #: 08900 - 06108		Sampler: Tim Leonard		(Printed Name)		FAX: (619) 558-8437
Main		Received by: (Signature and Printed Name) Tim Leonard		(Signature)		Date: 3/30/01 Time: 7:48
Date: 3-29-01		Time:				Date: Time:

Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:
and Report To:		Bill To:	Special Instructions/Comments:	
Name:		Alt.:		
Address:		Co.:	see pg. 1	
Address:		Address:		

State	City	Zip	State	City	Zip	Circle or Add Analysis(es) Requested	HAZARDOUS SAMPLE DISPOSAL		CIRCLE APPROPRIATE MATRIX	Container(s)	Type	TAT #	REMARKS	RESERVATION
							Sample I.D.	Date						
							1 - 1	3/29	11(7)					
							2 - 2		1(2)					
							3 - 3		1(2)					
							4 - 4		11(7)					
							5 - 5							
							6 - 6							
							7 - 7							
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Digitized by srujanika@gmail.com

CHAIN OF CUSTODY RECORD

Pg 4 of 9

FOR LABORATORY USE ONLY:											
Advanced Technology Laboratories P.O.#: _____ 1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040				Method of Transport <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL				Sample Condition Upon Receipt <input type="checkbox"/> 1. CHILLED <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> 3. CONTAINER INTACT <input type="checkbox"/> 4. SEALED <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> 6. PRESERVED			
Logged By: _____ Date: _____ Time: _____ Project Name: RR 5 - Harbor to Muri Project #: 08900-06-108 Sampler: TM Leonard (Signature and Printed Name)				Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121				Received by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)			
Relinquished by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)				Received by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)				Received by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)			
Relinquished by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)				Received by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)				Received by: (Signature and Printed Name) TM Leonard (Signature and Printed Name)			
Therapy authorizes ATL to perform the work indicated below: Project Mgr./Submitter: _____ Print Name _____ Date _____ Signature _____				Send Report To: Attn: Client Co: _____ Address _____ City _____ State _____ Zip _____				Bill To: Attn: Client Co: _____ Address _____ City _____ State _____ Zip _____			
Unless otherwise requested, all samples will be disposed 45 days after receipt.				Sample Archive/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____				Circle or Add Analysis(es) Requested 8061/8062 (Pesticides/PCBs-GCMS) 825/8270 (BENZ-GC/MS) 8015M TRIFLUOROACETIC ACID (G/MS-GC) 8015M TOTAL (CAC-8010/7000) Metals-Toxic (CAC-8010/7000) OIL-SOLVENT-SLUDGE WATER-WASTEWATER DRINKING WATER AIR FILTER WIP NAVY CT			
* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL								Circle Appropriate Matrix 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40			
LAB USE ONLY: Batch #: _____ Lab No. _____				Sample I.D. _____ Sample Description _____				Date _____ Time _____ Emergency _____ B=Next workday			
TAT: A= Overnight B= ≤ 24 hr				C= Critical D= 2 Workdays				P=Plastic J=Jar G=Glass			
Container Types: T=Tube V=VOA L=Liter				Urgent D= 3 Workdays				M=Metal			
Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C O=NaOH T=Na ₂ SO ₄ Z=Zn(AC) ₂											

- TAT starts 8 a.m. following day if samples received after 5 p.m.

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY:											
Advanced Technology Laboratories P.O. #: _____ 1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040				Method of Transport <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL				Sample Condition Upon Receipt <input type="checkbox"/> 1. CHILLED <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> 3. CONTAINER INTACT <input type="checkbox"/> 4. SEALED <input type="checkbox"/> 5. # OF SPLS MATCH/COC <input type="checkbox"/> 6. PRESERVED			
Logged By: _____ Date: _____ Time: _____ Project Name: <u>R/S S-Harbor to Mng</u> <u>Relinquished by:</u> (Signature and Printed Name) <u>Relinquished by:</u> (Signature and Printed Name) <u>Relinquished by:</u> (Signature and Printed Name)				Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121 (Printed Name) <u>Tim Leonard</u> (Signature) <u>1/29/01</u>				Received by: (Signature and Printed Name) <u>Tim Leonard</u> Date: <u>1/30/01</u> Time: <u>7:45 AM</u>			
Client: GEOCON ENVIRONMENTAL - SAN DIEGO Attn: <u>Tim Leonard</u>				Project #: 08900-06-108 Sampler: <u>Tim Leonard</u>				Received by: (Signature and Printed Name) <u>Tim Leonard</u> Date: <u>1/30/01</u> Time: <u>7:45 AM</u>			
Relinquished by: (Signature and Printed Name) <u>Relinquished by:</u> (Signature and Printed Name) <u>Relinquished by:</u> (Signature and Printed Name)				Date: _____ Time: _____ Received by: (Signature and Printed Name) <u>Tim Leonard</u> Date: _____ Time: _____ Received by: (Signature and Printed Name) <u>Tim Leonard</u>				Received by: (Signature and Printed Name) <u>Tim Leonard</u> Date: _____ Time: _____ Received by: (Signature and Printed Name) <u>Tim Leonard</u>			
Special Instructions/Comments:											
See pg. 1											
I hereby authorize ATL to perform the work indicated below. Project Mgr / Submitter: _____ Print Name _____ Date _____ Signature _____				Send Report To: Attn: <u>Client</u> Co: _____ Address _____ City _____ State _____ Zip _____				Bill To: Attn: _____ Co: _____ Address _____ City _____ State _____ Zip _____			
Unless otherwise requested, all samples will be disposed 45 days after receipt. * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.				Circle or Add Analysis(es) Requested <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other <input type="checkbox"/> Return To: _____				Circle Appropriate Matrix <input type="checkbox"/> 625 / 8270 (BNS-G/CMIS) <input type="checkbox"/> 8061 / 8088 (Pesticides/PCBs-GC) <input type="checkbox"/> 8280 (Volatile Organics-GC/MS) <input type="checkbox"/> 8015M TP/HS/TEX (CO/CH-7000) <input type="checkbox"/> 8015M TP/HFID (Diesel-GC) <input type="checkbox"/> 625 / 8270 (BNS-G/CMIS) <input type="checkbox"/> 8061 / 8088 (Pesticides/PCBs-GC)			
LAB USE ONLY: Batch #: _____ Lab No. _____				Sample Description Sample I.D. <u>B18-2</u> Date <u>1/27/01</u> Time <u>1233</u>				QA / QC <input type="checkbox"/> RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WIP <input type="checkbox"/> NAVY <input checked="" type="checkbox"/> CT OTHER <input type="checkbox"/> REVATIOL <input type="checkbox"/> FILTER <input type="checkbox"/> CONTAINER(S)			
51											
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60											

• TAT starts 8 a.m. following day if samples received after 5 p.m.

Preservatives:
 H=HCl N=HNO₃ S=H₂SO₄ C=C₆H₅CO₂
 Zn(AC)₂ O=NaOH T=Na₂SO₄

Container Types:		T=Tube	V=VOA	L=Liter	P=Print	J=Jar	G=Tedlar	B=Plastic	M=Glass	E=Routine	D=Urgent
C= Critical		B= Emergency	A= Overnight	≤ 24 hr	B= Next workday	C= 2 Workdays	D= 3 Workdays	E= 7 Workdays	F= Metal	G= Plastic	H= Glass

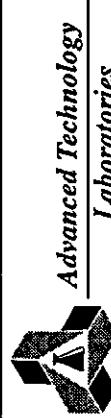
CHART OF STUDY RECOMMENDATION

FOR LABORATORY USE ONLY

FOR LABORATORY USE ONLY						Sample Condition Upon Receipt
Advanced Technology Laboratories P.O. #: _____ Logged By: _____ Date: _____ Time: _____ Client: GEOCON ENVIRONMENTAL - SAN DIEGO Attn: <u>Tim Leonard</u>			Method of Transport <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL			1. CHILLED <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> 3. CONTAINER INTACT <input type="checkbox"/> 4. SEALED <input type="checkbox"/> 5. # OF SPLS MATCH COC <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/> 7. <i>Tim Leonard</i> <input type="checkbox"/>
Project Name: <u>Re 5 - Harbor to Math</u> Relinquished by: <u>Tim Leonard</u> Date: <u>3-29-01</u> Relinquished by: (Signature and Printed Name)			Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121 (Signature)			TEL: (619) 558-6100 FAX: (619) 558-8437 Date: <u>3/30/01</u> / Time: <u>7:45 AM</u> Received by: (Signature and Printed Name) Received by: (Signature and Printed Name)
						Special Instructions/Comments: <i>See pg. 1</i>
Relinquished by: (Signature and Printed Name) I hereby authorize ATL to perform the work indicated below. Project Mgr / Submitter: <u>Tim Leonard</u>			Send Report To: Attn: <u>Client</u> Co: _____ Address _____ City _____ State _____ Zip _____			Bill To: Attn: _____ Co: _____ Address _____ City _____ State _____ Zip _____
Unless otherwise requested, all samples will be disposed 45 days after receipt.			Circle or Add Analysis(es) Requested <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____ * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.			CIRCLE APPROPRIATE MATRIX <input type="checkbox"/> 8015M TRHD (Dense/GC) <input type="checkbox"/> 8015M TPHG/TEX (COMBINATION) <input type="checkbox"/> 8250 (Volatile-GCAMS) <input type="checkbox"/> 8270 (BNL-GCAMS) <input type="checkbox"/> 8282 (Pesticides-GCAMS) <input type="checkbox"/> 8281 / 8082 (Pesticides-GCAMS) <input type="checkbox"/> 8015M TPHG/TEX (GCAMS) <input type="checkbox"/> 8015M TRHD (Dense/GC) <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> AIR <input type="checkbox"/> WATER / WASTEWATER <input type="checkbox"/> SOLVENT / LIQUID <input type="checkbox"/> OIL / SLUDGE <input type="checkbox"/> GEL / SLUDGE <input type="checkbox"/> DUST / SLUDGE <input type="checkbox"/> OTHER
LAB USE ONLY: Batch #:			Sample Description Sample I.D.			TAT # Type d Remarks C 1 51G
M	E	N	Lab No.	Sample I.D.	Date	Time
61			B22-S	729	155	
62			B22-1		158	
63			B22-Z		204	
64			B23-S		1409	
65			B23-1		1411	
66			B24-S		1414	
67			B24-1		1418	
68			B24-Z		1414	
69			R25-S		1419	
70					1421	
TAT starts 8 a.m. following day if samples received after 5 p.m.			TAT: A= <input type="checkbox"/> Overnight <input checked="" type="checkbox"/> Emergency <input type="checkbox"/> Critical C= <input type="checkbox"/> 2 Workdays B= <input type="checkbox"/> Next workday	D= <input type="checkbox"/> Urgent <input type="checkbox"/> Critical D= <input type="checkbox"/> 3 Workdays E= <input type="checkbox"/> 7 Workdays	Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4°C O=NaOH T=Na ₂ SO ₄ Z=Zn(Ac) ₂	
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass M=Metal P=Plastic						

CHAIN OF CUSTODY RECORD

Pg 8 of



FOR LABORATORY USE ONLY:											
Advanced Technology Laboratories P.O.#: _____ 1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040						Sample Condition Upon Receipt <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL					
Logged By: _____ Date: _____ Time: _____						<input type="checkbox"/> 1. CHILLED <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> 3. CONTAINER INTACT					
Project Name: <u>R&S Harbor Mall</u> Relinquished by: <u>Tim Leonard</u> Relinquished by: <u>Tim Leonard</u> Relinquished by: <u>Tim Leonard</u>						Project #: <u>08900-06008</u> Sampler: <u>Tim Leonard</u> Date: <u>3-29-01</u> Time: <u>10:00 AM</u> Received by: <u>(Signature and Printed Name)</u> Date: <u>3/30/01</u> Time: <u>2:45 PM</u> Received by: <u>(Signature and Printed Name)</u>					
Client: GEOCON ENVIRONMENTAL - SAN DIEGO Attn: <u>Tim Leonard</u>						Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121					
Attn: <u>Client</u> Co: <u>Client</u> Address: _____						Bill To: Attn: <u>Client</u> Co: <u>Client</u> Address: _____					
I hereby authorize ATL to perform the work indicated below: Project Mgr /Submitter: <u>Client</u> Print Name: _____ Date: _____ Signature: _____						Send Report To: _____					
Unless otherwise requested, all samples will be disposed 45 days after receipt.						* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.					
Sample Description											
T	LAB USE ONLY: Batch #:	Lab No.	Sample I.D.	Date	Time						
71			B25-1	3/29	1425						
72			B25-2		1426						
73			B26-5		1431						
74			B26-1		1436						
75			B26-2		1437						
76			B27-5		1438						
77			B27-1		1457						
78			B27-2		1440						
79			B28-5		1450						
80			B28-1		1453						
Pg <u>8</u> of <u>8</u> <i>See pg. 1</i>											
TAT: A= Overnight B= Emergency samples received after 5 p.m. C= Critical Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal											
• TAT starts 8 a.m. following day if samples received after 5 p.m.											
Critical D= 2 Workdays Emergency B= Next workday Urgent D= 3 Workdays Routine E= 7 Workdays											
Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4C O=NaOH Z=Zn(AC) ₂ O=BaS ₂ O ₃ T=NaOH											

June 25, 2001

Tim Leonard
Geocon Environmental
6970 Flanders Drive
San Diego, CA 92121
TEL: (858) 558-6100
FAX (858) 558-8437

ELAP No: 1838

RE: Rte 5-Harbor to Main - 08900-06-108

Work Order No.: 050348

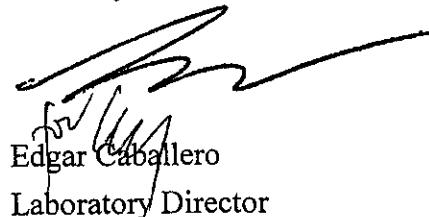
Attention: Tim Leonard

Enclosed are the results for sample(s) received on March 30, 2001 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,



Edgar Caballero
Laboratory Director

This cover letter is an integral part of this analytical report.



Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

FAX



Date

6-18-01

Number of pages including cover sheet

1

TO: Diane
ATL

Phone
Fax Phone

CC: Joel Kloth - Caltrans

FROM: Bob Owoc
Geocon Environmental
Consultants, Inc.
6970 Flanders Drive
San Diego CA 92121

email environmental@geoconinc.com

Phone 858.558.6100
Fax Phone 858.558.8437

REMARKS: Urgent For your review Reply ASAP Please Comment

Subject:

ROUTE 5 – HARBOR TO MAIN

ATL WORK ORDER 050348
GEOCON PROJECT 8900-06-108
CALTRANS TO 11-066700-VZ

Please analyze the following samples for soluble lead by the WET-DI method:

050348-009
050348-017
050348-019
050348-023
050348-024
050348-035
050348-043
050348-044
050348-045
050348-049
050348-053
050348-057
050348-058
050348-060
050348-064
050348-072
050348-074
050348-082

All analyses should be performed under 48 hour turn-around time.
Final laboratory report and invoice must be to Geocon by June 26, 2001

Advanced Technology Laboratories

Print Date: 25-Jun-01

CLIENT: Geocon Environmental **Test No:** WET DI/ EPA 74
Lab Order: 050348 **Units:** mg/L
Project: Rte 5-Harbor to Main - 08900-06-108 **Analyst:** RQ

Sample ID	Client Sample ID	Matrix	Collection Date	QC Batch	Lead	PQL	Qual	DF	Analysis Date
050348-009A	B4-S	Solid/ STLC DI Extract	3/29/01	4639	0.86	0.15	1	6/25/01	
050348-017A	B7-S	Solid/ STLC DI Extract	3/29/01	4639	0.92	0.15	1	6/25/01	
050348-019A	B7-2	Solid/ STLC DI Extract	3/29/01	4639	1.2	0.15	1	6/25/01	
050348-023A	B9-S	Solid/ STLC DI Extract	3/29/01	4639	1.5	0.15	1	6/25/01	
050348-024A	B9-1	Solid/ STLC DI Extract	3/29/01	4639	ND	0.15	1	6/25/01	
050348-035A	B13-1	Solid/ STLC DI Extract	3/29/01	4639	0.23	0.15	1	6/25/01	
050348-043A	B16-S	Solid/ STLC DI Extract	3/29/01	4639	0.40	0.15	1	6/25/01	
050348-044A	B16-1	Solid/ STLC DI Extract	3/29/01	4639	0.37	0.15	1	6/25/01	
050348-045A	B16-2	Solid/ STLC DI Extract	3/29/01	4639	ND	0.15	1	6/25/01	
050348-049A	B18-S	Solid/ STLC DI Extract	3/29/01	4639	1.4	0.15	1	6/25/01	
050348-053A	B19-1	Solid/ STLC DI Extract	3/29/01	4639	ND	0.15	1	6/25/01	
050348-057A	B20-2	Solid/ STLC DI Extract	3/29/01	4639	ND	0.15	1	6/25/01	

Qualifiers	ND - Not Detected at the Reporting Limit	S - Spike/Surrogate outside of limits due to matrix interference.
	J - Analyte detected below quantitation limits	H - Samples exceeding analytical holding time
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	DO - Surrogate Diluted Out	M - Not Monitored. Highly Reactive

 Initials:

1


 Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4045

Advanced Technology Laboratories

Print Date: 25-Jun-01

CLIENT:	Geocon Environmental	Test No:	WET DI/ EPA 74
Lab Order:	050348	Units:	mg/L
Project:	Rte 5-Harbor to Main - 08900-06-108	Analyst:	RQ

Sample ID	Client Sample ID	Matrix	Collection Date	QC Batch	Lead	PQL	Qual	DF	Analysis Date
050348-058A	B21-S	Solid/ STLC DI Extract	3/29/01	4639	0.21	0.15	1		6/25/01
050348-060A	B21-2	Solid/ STLC DI Extract	3/29/01	4639	ND	0.15	1		6/25/01
050348-064A	B23-S	Solid/ STLC DI Extract	3/29/01	4639	0.31	0.15	1		6/25/01
050348-072A	B25-2	Solid/ STLC DI Extract	3/29/01	4639	0.33	0.15	1		6/25/01
050348-074A	B26-1	Solid/ STLC DI Extract	3/29/01	4639	0.15	0.15	1		6/25/01
050348-082A	B29-S	Solid/ STLC DI Extract	3/29/01	4639	1.7	0.15	1		6/25/01

Qualifiers	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank DO - Surrogate Diluted Out	S - Spike/Surrogate outside of limits due to matrix interference. H - Samples exceeding analytical holding time E - Value above quantitation range M - Not Monitored. Highly Reactive	Initials: <u>JO</u>
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2

Advanced Technology
Laboratories

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040



**Advanced Technology
Laboratories**

Advanced Technology Laboratories

CLIENT: Geocon Environmental
Work Order: 050348
Project: Rte 5-Harbor to Main - 08900-06-108

QC SUMMARY REPORT

Method Blank

Date: 25-Jun-01

Sample ID		Batch ID:		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L		Analysis Date:		Prep Date:		
				Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MBLK	Analyte			ND	0.15	0	0				0			
Lead														
Sample ID		Batch ID:		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L		Analysis Date:		Prep Date:		
				Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MBLK	Analyte			ND	0.15	0	0				0			
Lead														
Sample ID		Batch ID:		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L		Analysis Date:		Prep Date:		
				Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
MBLK	Analyte			ND	0.15	0	0				0			
Lead														

Qualifiers: ND - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits M - Not Monitored. Highly Reactive
R - RPD outside accepted recovery limits S - Spike/Surrogate outside of limits due to matrix interference

All calculations are based on raw values.

Initials: A I



Advanced Technology Laboratories

Advanced Technology Laboratories

Date: 25-Jun-01

QC SUMMARY REPORT

Sample Duplicate

CLIENT: Geocon Environmental
Work Order: 050348
Project: Rte 5-Harbor to Main - 08900-06-108

Sample ID 050348-019ADU Batch ID: 4639		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L Analysis Date: 6/25/01		Prep Date: 6/21/01				
DUP	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	Lead	0.46	0.15	0	0	0	0	0	1.4	99	30	R
DUP	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	Lead	2.4	0.15	0	0	0	0	0	1.7	32	30	R

Qualifiers:	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits	B - Analyte detected in the associated Method Blank M - Not Monitored. Highly Reactive S - Spike/Surrogate outside of limits due to matrix interference	DO - Surrogate Diluted Out	Initials: <u> </u> 2
All calculations are based on raw values.				



Advanced Technology Laboratories

Advanced Technology Laboratories

CLIENT: Geocon Environmental

Work Order: 050348

Rte 5-Harbor to Main - 08900-06-108

Project: Sample Matrix Spike

Date: 25-Jun-01

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID 050348-049AMS Batch ID: 4639		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L Analysis Date: 6/25/01				Prep Date: 6/21/01		
MS	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		7.3	0.15	5	1.4	117	80	120	0			
Sample ID 050348-082AMS Batch ID: 4639		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L Analysis Date: 6/25/01				Prep Date: 6/21/01		
MS	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		6.8	0.15	5	1.7	102	80	120	0			
Sample ID 050348-082AMS Batch ID: 4639		Test Name LEAD BY ATOMIC ABSORPTION				Units mg/L Analysis Date: 6/25/01				Prep Date: 6/21/01		
MSD	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead		6.8	0.15	5	1.7	102	80	120	6.8	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank
M - Not Monitored. Highly Reactive
S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out

Initials:

Page 3

All calculations are based on raw values.



Advanced Technology
Laboratories

Advanced Technology Laboratories

Date: 25-Jun-01

CLIENT: Geocon Environmental
Work Order: 050348
Project: Rte 5-Harbor to Main - 08900-06-108

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID:	Test Name	LEAD BY ATOMIC ABSORPTION	Units mg/L	Analysis Date:	Prep Date:				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	10	0.15	10	0	103	80	120	0	0		

3275 Walnut Avenue Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank
M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

All calculations are based on raw values.

DO - Surrogate Diluted Out

Initials: D

Page 4

FAX



Date

6 - 18 - 01

Number of pages including cover sheet

1

TO: Diane
ATL

Phone
Fax Phone

CC: Joel Kloth - Caltrans

FROM: Bob Owoc
Geocon Environmental
Consultants, Inc.
6970 Flanders Drive
San Diego CA 92121

email environmental@geoconinc.com

Phone 858.558.6100
Fax Phone 858.558.8437

REMARKS: **Urgent** **For your review** **Reply ASAP** **Please Comment**
Subject:

ROUTE 5 – HARBOR TO MAIN

ATL WORK ORDER 050348
GEOCON PROJECT 8900-06-108
CALTRANS TO 11-066700-VZ

Please analyze the following samples for soluble lead by the WET-DI method:

050348-009
050348-017
050348-019
050348-023
050348-024
050348-035
050348-043
050348-044
050348-045
050348-049
050348-053
050348-057
050348-058
050348-060
050348-064
050348-072
050348-074
050348-082

All analyses should be performed under 48 hour turn-around time.
Final laboratory report and invoice must be to Geocon by June 26, 2001

CHAIN OF CUSTODY RECORD

Pg 9

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY:

CHAIN OF CUSTODY RECORD

Pg 4 of 9

FOR LABORATORY USE ONLY:											
Advanced Technology <i>Laboratories</i> P.O. # 1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040			Client: GEOCON ENVIRONMENTAL - SAN DIEGO Attn: Leonard Leonard P.O. # Project Name: R R 5 - Harbor to Man Relinquished by: Client Relinquished by: Client Relinquished by: Client			Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121 Printed Name: Leonard Leonard Received by: (Signature and Printed Name)			Sample Condition Upon Receipt: <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL 1. CHILLED <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> 3. CONTAINER INTACT Y <input type="checkbox"/> N <input type="checkbox"/> 4. SEALED Y <input type="checkbox"/> N <input type="checkbox"/> 5. W/O SPLASH/COC Y <input type="checkbox"/> N <input type="checkbox"/> 6. PRESERVED Y <input type="checkbox"/> N <input type="checkbox"/>		
Logged By: _____ Date: _____ Time: _____			Date: 3-29-01 Time: 11:45AM						TEL: (619) 558-6100 FAX: (619) 558-8437		
Print Name _____ Date _____			Received by: (Signature and Printed Name)						Date: 3-30-01 Time: 11:45AM		
Print Name _____ Date _____			Received by: (Signature and Printed Name)						Date: 3-30-01 Time: 11:45AM		
Print Name _____ Date _____			Received by: (Signature and Printed Name)						Date: 3-30-01 Time: 11:45AM		
See pg. 1											
Special Instructions/Comments:											
I hereby authorize ATL to perform the work indicated below. Project Mgr /Submitter: Print Name _____ Date _____ Signature _____											
Send Report To: Attn: Client Co: Client Address _____											
Bill To: Attn: Client Co: Client Address _____											
City _____ State _____ Zip _____											
Circle or Add Analysis(es) Requested <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____											
* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.											
LAB USE ONLY: Batch #: _____											
E	M	Lab No.	Sample I.D.	Date	Time	Sample Description					
31		B12-S		3/29/01	11:52						
32		B12-1			11:54						
33		B12-2			11:58						
34		B13-S			11:59						
35		B13-1			11:57						
36		B13-2			12:02						
37		B14-S			12:00						
38		B14-1			12:04						
39		B14-2			12:07						
40		B15-S			12:05						
TAT: A= Overnight B= <input type="checkbox"/> 24 hr			Emergency C= <input type="checkbox"/> Next workday			Critical D= <input type="checkbox"/> 3 Workdays			Urgent E= <input type="checkbox"/> 7 Workdays		
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar			Container Types: G=Glass P=Plastic M=Metal			Container Types: B=Tediar			Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4C Zn(AC) ₂ O=NaOH T=Na ₂ SO ₄		
DISTRIBUTION: White with report, Yellow to folder, Pink to submitter.											

CHAIN OF CUSTODY RECORD**FOR LABORATORY USE ONLY:**

Advanced Technology Laboratories 1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040		Method of Transport <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL		1. CHILLED <input type="checkbox"/> 2. HEADSPACE (VOA) <input type="checkbox"/> 3. CONTAINER INTACT <input type="checkbox"/>		Sample Condition Upon Receipt <input type="checkbox"/> 4. SEALED <input type="checkbox"/> 5. 1 OR 2 SPLS MATCH COC <input type="checkbox"/> 6. PRESERVED <input type="checkbox"/>	
Client: GEOCON ENVIRONMENTAL - SAN DIEGO Attn: <u>Tim Leonard</u>		Address: 6970 Flanders Drive City: San Diego State: CA Zip Code: 92121		Received by: (Signature) <u>Tim Leonard</u> Date: <u>3/30/01</u> Time: <u>2:45PM</u>		FAX: (619) 558-6100 Time: <u>2:45PM</u>	
Project Name: <u>Rebar to Main Tech Only</u> Relinquished By: <u>Tim Leonard</u> Relinquished D.Y.: <u>(Signature and Printed Name)</u>		Project #: 08900-06-108 Sampler: <u>Tim Leonard</u> Date: <u>3/29/01</u> Time: <u>10:00AM</u>		Received by: (Signature and Printed Name) Date: <u>3/30/01</u> Time: <u>2:45PM</u>		Date: <u>3/30/01</u> Time: <u>2:45PM</u>	
Send Report To: Attn: <u>Client</u> Co: <u></u> Address: <u></u>		Bill To: Attn: <u>Client</u> Co: <u></u> Address: <u></u>		Special Instructions/Comments: <p style="text-align: center;"><i>See pg. 1</i></p>			
I hereby authorize ATL to perform the work indicated below. Project Mgr /Submitter: <u></u> Print Name: <u></u> Date: <u></u>		Signature: <u></u> Date: <u></u> Zip: <u>92120</u> City: <u></u> State: <u>CA</u>		Circle or Add Analyses(s) Requested <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____		Q/A / Q/C RTNE <input type="checkbox"/> RWQCB <input type="checkbox"/> WP <input type="checkbox"/> NAVY <input checked="" type="checkbox"/> CT <input type="checkbox"/> OTHER <input type="checkbox"/>	
Unless otherwise requested, all samples will be disposed 45 days after receipt.		* \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.		Circle APPROPRIATE MATRIX		TAT # Type <u>15:6</u>	
LAB USE ONLY: Batch #:		Sample Description				REMARKS	
E	M	Lab No.	Sample I.D.	Date	Time		
41			B15-1	3/29/01	12:00		
42			B15-2		12:13		
43			B16-S		12:14		
44			B16-1		12:16		
45			B16-2		12:19		
46			B17-S		12:26		
47			B17-1		12:30		
48			B17-S		12:33		
49			B18-1		12:30		
50			B18-1		12:32		
Emergency TAT: A= Overnight B= Next workday samples received after 5 p.m.		Critical C= 2 Workdays		D= 3 Workdays		E= 7 Workdays	
Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar		G=Glass B=Tediar P=Plastic		M=Metal		Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4C Zn(AC) ₂ O=NaOH T=Na ₂ SO ₄	

DISTRIBUTION: White with report, Yellow to folder, Pink to submitter.

CHAIN OF CUSTODY RECORD

FOR LABORATORY USE ONLY:													
				Method of Transport				Sample Condition Upon Receipt					
Advanced Technology Laboratories		P.O.#:		Walk-in Counter	<input type="checkbox"/>	1. CHILLED	<input type="checkbox"/>	Y <input type="checkbox"/> N	4. SEALED	<input type="checkbox"/>	Y <input type="checkbox"/> N		
Client: GEOCON ENVIRONMENTAL - SAN DIEGO		Logged By:	Date:	UPS	<input type="checkbox"/>	2. HEADSPACE (NOA)	<input type="checkbox"/>	N <input type="checkbox"/>	5. # OF SPLS MATCH(OOC	<input type="checkbox"/>	Y <input type="checkbox"/> N		
Attn: Tim Leonoff		Project Name: RR 5 - Harbor to Mtn	Project #: 08900-06-108	Sampler: Tim Leonoff	(Printed Name) <i>Tim Leonoff</i>	Received by: (Signature and Printed Name) <i>Tim Leonoff</i>	Date: 3/29/01	Time: <i>7:45 AM</i>	Date: 3/30/01	Time: <i>7:45 AM</i>	TEL: (619) 558-6100		
Relinquished By: (Signature and Printed Name)		Date:	City: San Diego	State: CA	Zip Code: 92121	FAX: (619) 558-8437							
Relinquished By: (Signature and Printed Name)		Date:	City: San Diego	State: CA	Zip Code: 92121	FAX: (619) 558-8437							
Relinquished By: (Signature and Printed Name)		Date:	City: San Diego	State: CA	Zip Code: 92121	FAX: (619) 558-8437							
Project Mgr / Submitter:		Date:	Send Report To:	Special Instructions/Comments: <i>See pg. 1</i>									
		Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				QA/QC	
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				RINE <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				RWQC8 <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				WIP <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				NAVY <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				CT <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				OTHER <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				MRVATIION <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				Z <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				R <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				A <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				C <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				G <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				H <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				I <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				J <input type="checkbox"/>
		Date:	Attn:	Co: Client	Address:	City:	State:	Zip:	CIRCLE APPROPRIATE MATRIX				K <input type="checkbox"/>
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DISTRIBUTION: White with report, Yellow to folder, Pink to submitter.													
Container Types: T=Tube V=VOA L=Liter B=Tederal P=Plint J=Jar G=Glass P=Plastic M=Metal													
Preservatives: H=HCl N=HNO ₃ S=H ₂ SO ₄ C=4C Z=Zn(AC) ₂ O=NaOH T=Na ₂ SO ₄													
• TAT starts 8 a.m. following day if samples received after 5 p.m.													

CHAIN OF CUSTODY RECORD

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Advanced Technology Laboratories P.O. #: 1510 E. 33rd Street Signal Hill, CA 90807 (562) 989-4045 • FAX (562) 989-4040		Method of Transport <input type="checkbox"/> Walk-in <input type="checkbox"/> Courier <input type="checkbox"/> UPS <input type="checkbox"/> FED. EXP. <input type="checkbox"/> ATL		Sample Condition Upon Receipt <input type="checkbox"/> 1. CHILLED <input type="checkbox"/> 2. HEADSPACE (NO) <input type="checkbox"/> 3. CONTAINER INTACT	
Logged By: _____ Date: _____ Time: _____ Project Name: <u>Rte 5 - Harbor to Main</u> Project #: <u>68900-06-108</u> Sampler: <u>T.M. Leonoff</u> (Printed Name) <u>Signature</u> Relinquished by: <u>T.M. Leonoff</u> Date: <u>3-29-91</u> Time: <u>11:50 a.m.</u> Date: <u>3/30/91</u> Time: <u>7:45 A.M.</u> Relinquished by: <u>Signature and Printed Name</u> Date: <u>Time:</u> Received by: <u>Signature and Printed Name</u> Date: <u>Time:</u> Relinquished by: <u>Signature and Printed Name</u> Date: <u>Time:</u> Received by: <u>Signature and Printed Name</u> Date: <u>Time:</u>		Received by: <u>(Signature and Printed Name)</u> <u>See pg. 1</u>		Special Instructions/Comments: <u>TSIAD Lead 6010</u>	
I hereby authorize ATI to perform the work indicated below. Project Mgr /Submitter: _____ Print Name: _____ Date: _____ Signature: _____		Send Report To: Attn: <u>Client</u> Co: _____ Address _____ City _____ State _____ Zip _____		Bill To: Attn: <u>Client</u> Co: _____ Address _____ City _____ State _____ Zip _____	
Unless otherwise requested, all samples will be disposed 45 days after receipt. * \$10.00 FEE PER HAZARDOUS SAMPLE DISPOSAL.		Sample Archival/Disposal: <input type="checkbox"/> Laboratory Standard <input type="checkbox"/> Other _____ <input type="checkbox"/> Return To: _____		CIRCLE APPROPRIATE MATRIX <input type="checkbox"/> Circle or Add Analysis(ies) Requested <input type="checkbox"/> G3 <input type="checkbox"/> G4 <input type="checkbox"/> G5 <input type="checkbox"/> G6 <input type="checkbox"/> G7 <input type="checkbox"/> G8 <input type="checkbox"/> G9 <input type="checkbox"/> G10 <input type="checkbox"/> G11 <input type="checkbox"/> G12 <input type="checkbox"/> G13 <input type="checkbox"/> G14 <input type="checkbox"/> G15 <input type="checkbox"/> G16 <input type="checkbox"/> G17 <input type="checkbox"/> G18 <input type="checkbox"/> G19 <input type="checkbox"/> G20 <input type="checkbox"/> G21 <input type="checkbox"/> G22 <input type="checkbox"/> G23 <input type="checkbox"/> G24 <input type="checkbox"/> G25 <input type="checkbox"/> G26 <input type="checkbox"/> G27 <input type="checkbox"/> G28 <input 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CHAIN OF CUSTODY RECORD

Pg. 8 of 1

CHAIN OF CUSTODY RECORD

Pg. 10 of 10

APPENDIX

C

Project Name: ROUTE 5- 24th STREET TO HARBOR DRIVE UNDERCROSSING

Project Number: 08900-06-108

Task Order Number: 11-066700-VZ

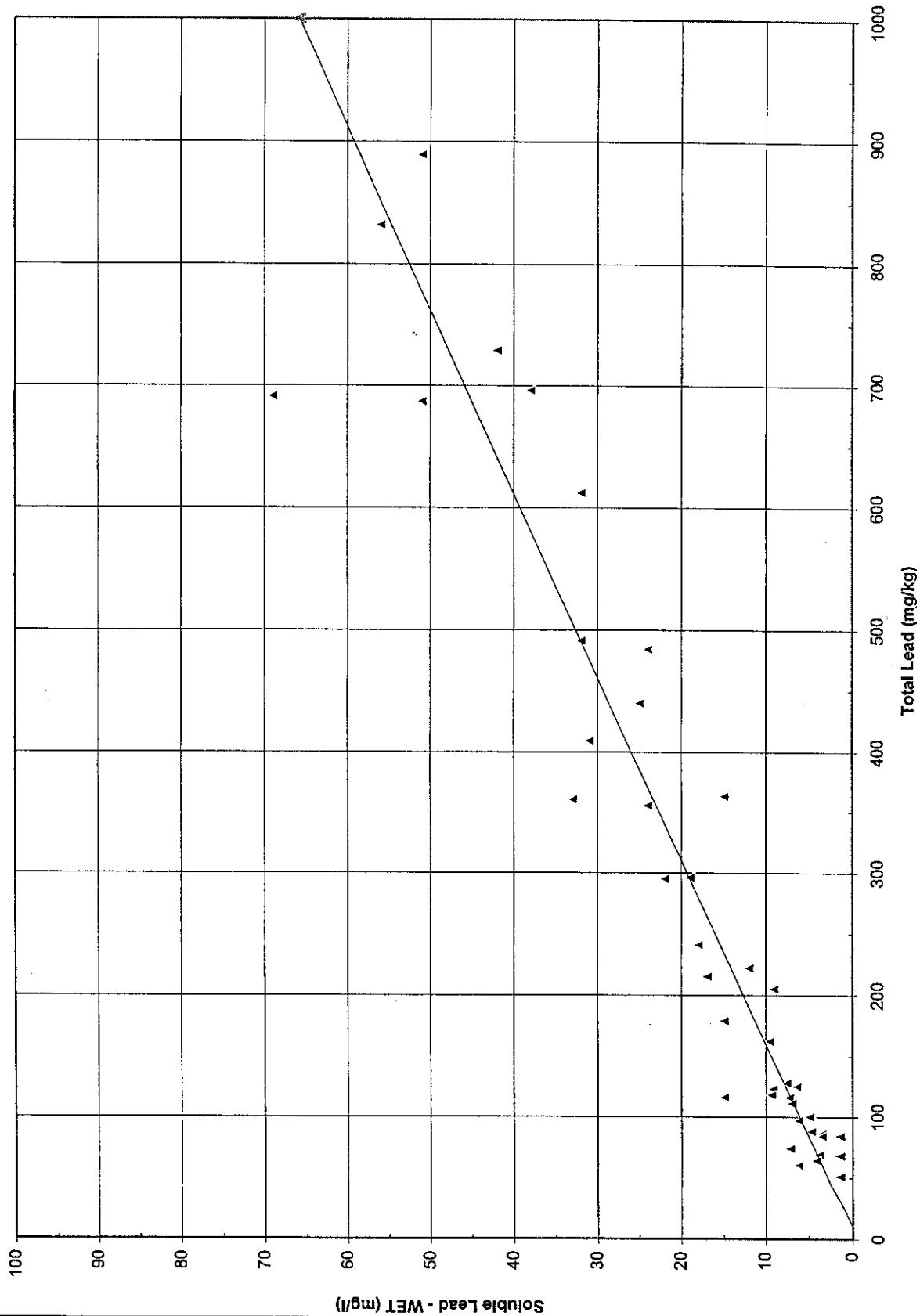
Regression Analysis Results for Total Lead vs. Soluble Lead (WET)

Regression Output:

Constant (<i>b</i>)	-0.5940
Slope (<i>m</i>)	0.0664
Correlation (<i>r</i>)	0.950
Number of (<i>x, y</i>) Observations	49
Total Lead Mean	250
Total Lead Standard Deviation	236
Soluble Lead (WET) Mean	16
Soluble Lead (WET) Standard Deviation	16

Regression Line: $y = m(x) + b$, where x = total lead and y = soluble lead (WET)

Total Lead vs. Soluble Lead (WET)



Project Name: ROUTE 5- 24th STREET TO HARBOR DRIVE UNDERCROSSING
Project No.: 08900-06-108
Task Order No.: 11-066700-VZ

Block Diagrams - 80% UCL for Normal Distribution

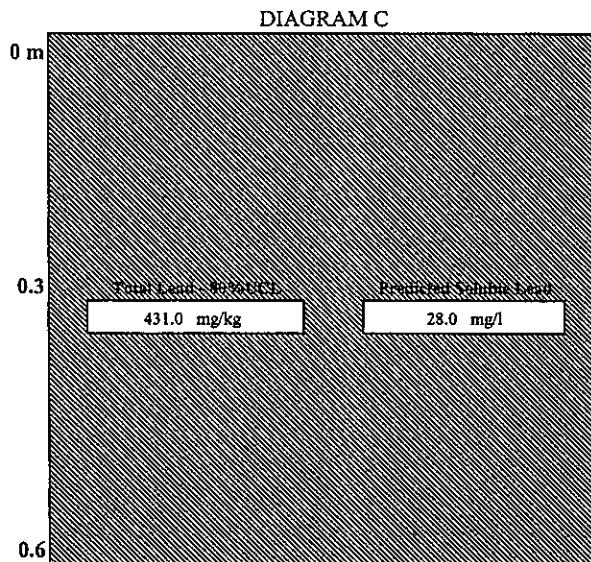
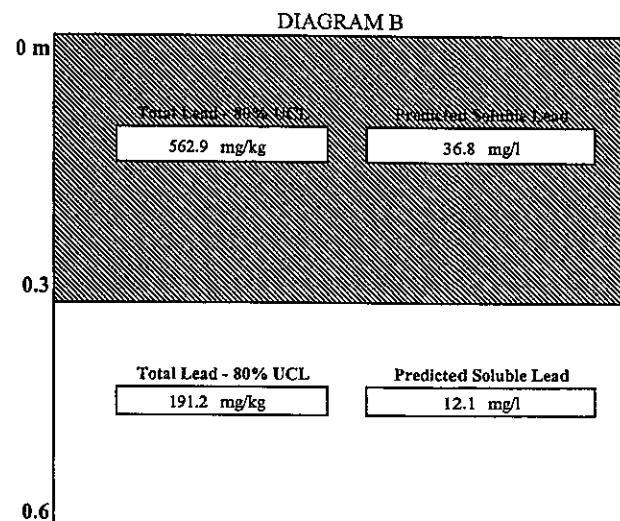
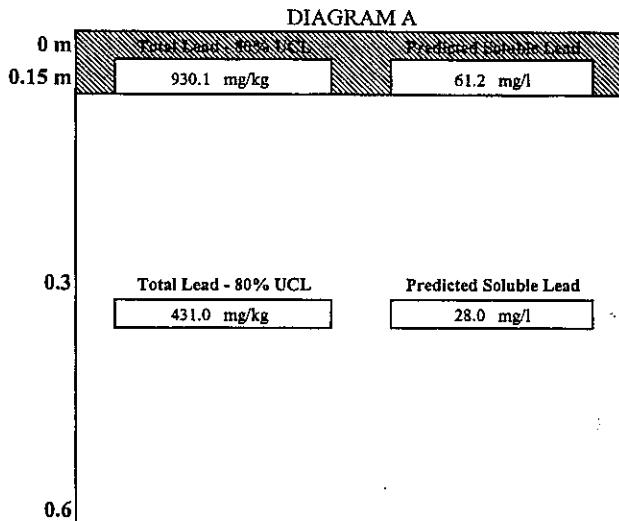
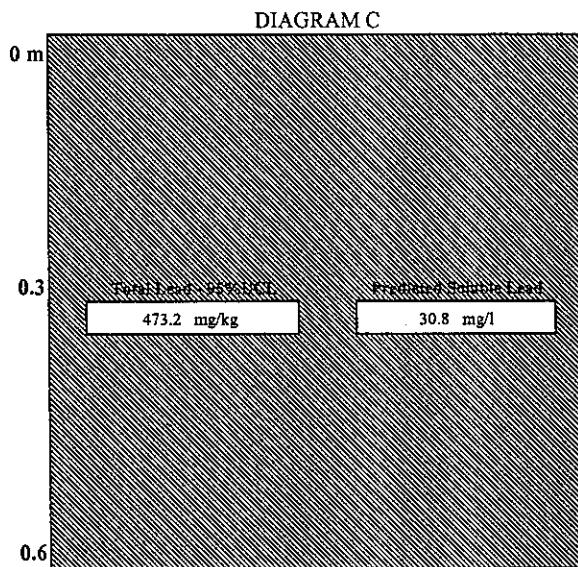
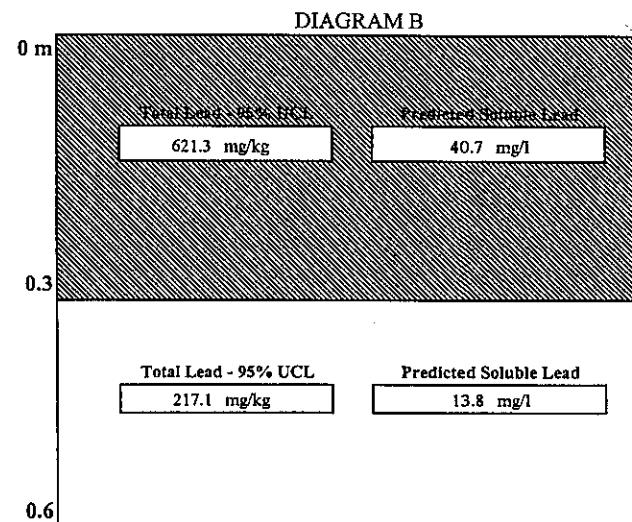
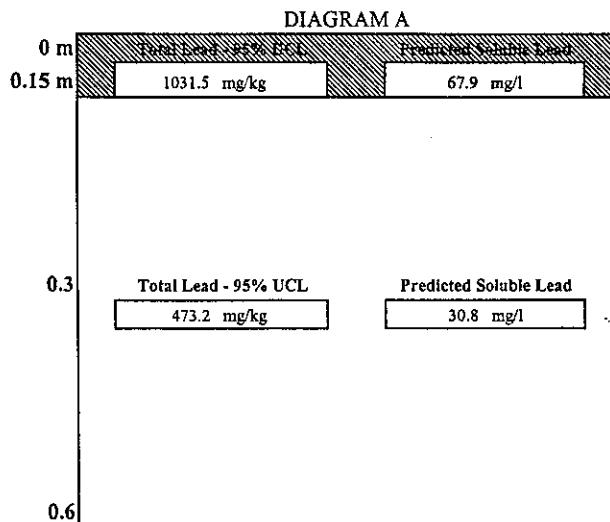


DIAGRAM A -- Separate the top of soil from the remaining underlying soil
 DIAGRAM B -- Separate the top of soil from the remaining underlying soil
 DIAGRAM C -- Treat the entire as a single unit

The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top of soil is excavated and kept separate from the underlying soil. In this case, the top of soil would be expected to exhibit an average total lead concentration of mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of mg/l. The underlying soil would be expected to exhibit an average total lead concentration of mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of mg/l.

Project Name: ROUTE 5- 24th STREET TO HARBOR DRIVE UNDERCROSSING
 Project No.: 08900-06-108
 Task Order No.: 11-066700-VZ

Block Diagrams - 95% UCL for Normal Distribution



- DIAGRAM A -- Separate the top 0.15 m of soil from the remaining underlying soil
 DIAGRAM B -- Separate the top 0.3 of soil from the remaining underlying soil
 DIAGRAM C -- Treat the entire section as a single unit

The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top 0.15 m of soil is excavated and kept separate from the underlying soil. In this case, the top 0.15 m of soil would be expected to exhibit an average total lead concentration of 1031.5 mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of 67.9 mg/l. The underlying soil would be expected to exhibit an average total lead concentration of 473.2 mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of 30.8 mg/l.

Project Name: ROUTE 5- 24th STREET TO HARBOR DRIVE UNDERCROSSING
Project No.: 08900-06-108
Task Order No.: 11-066700-VZ

Block Diagrams - 80% UCL for Lognormal Distribution

DIAGRAM A

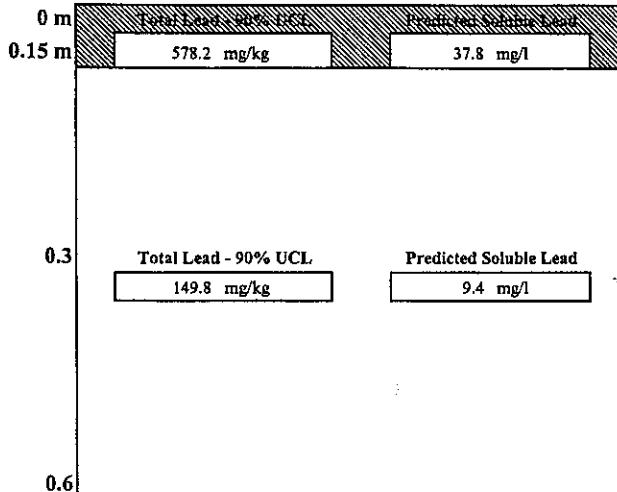


DIAGRAM B

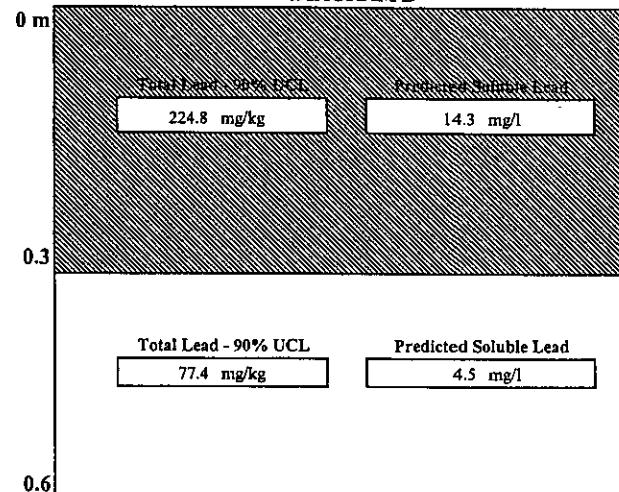
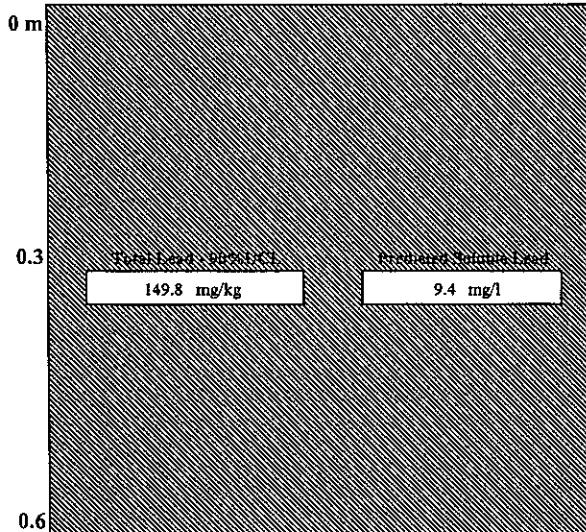


DIAGRAM C



- DIAGRAM A -- Separate the top of soil from the remaining underlying soil
- DIAGRAM B -- Separate the top of soil from the remaining underlying soil
- DIAGRAM C -- Treat the entire as a single unit

The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top of soil is excavated and kept separate from the underlying soil. In this case, the top of soil would be expected to exhibit an average total lead concentration of mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of mg/l. The underlying soil would be expected to exhibit an average total lead concentration of mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of mg/l.

Project Name: ROUTE 5- 24th STREET TO HARBOR DRIVE UNDERCROSSING
Project No.: 08900-06-108
Task Order No.: 11-066700-VZ

Block Diagrams - 95% UCL for Lognormal Distribution

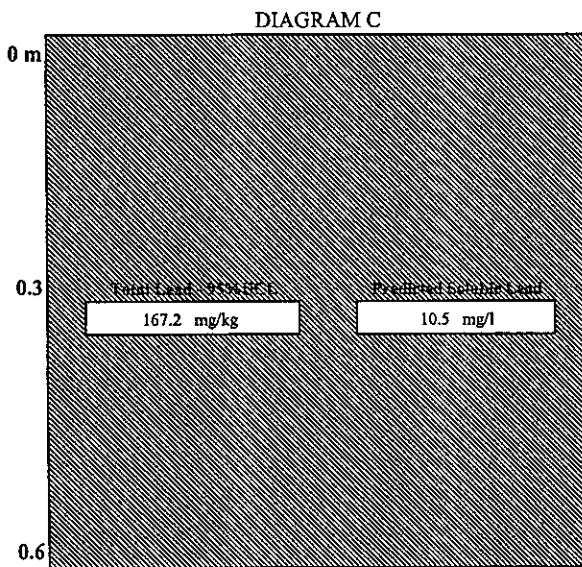
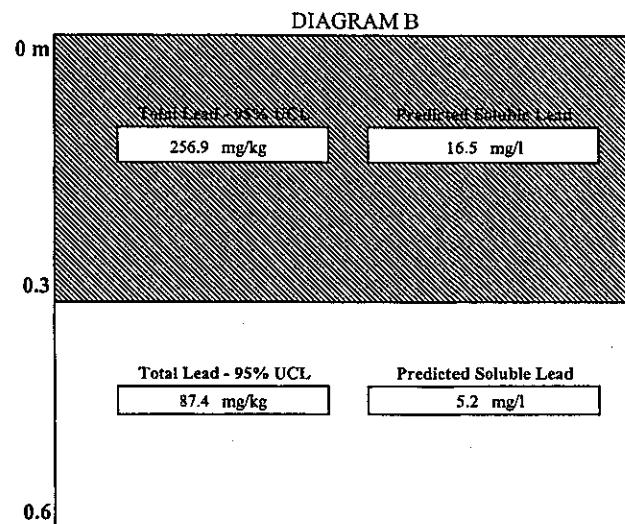
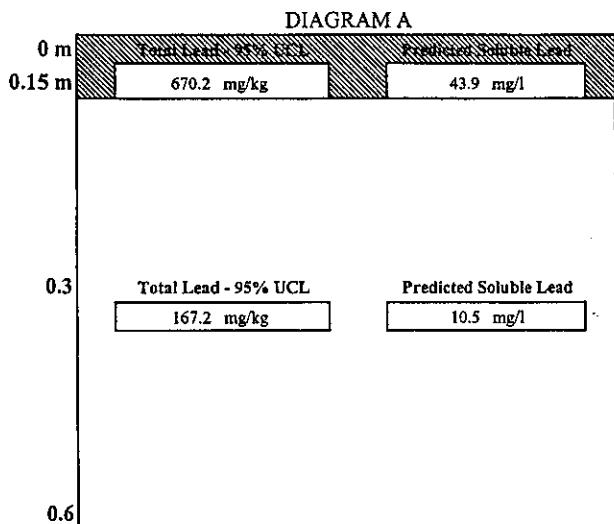
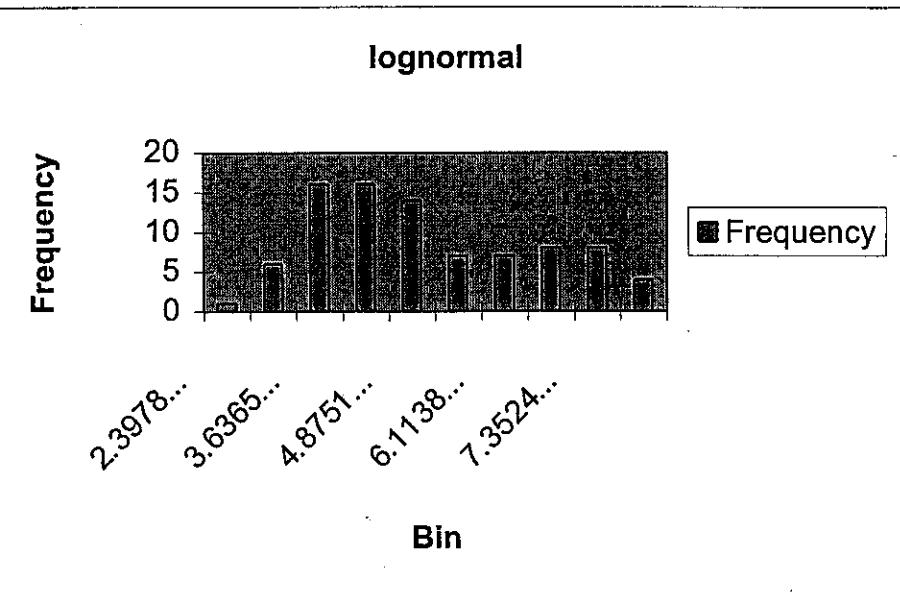


DIAGRAM A -- Separate the top of soil from the remaining underlying soil
 DIAGRAM B -- Separate the top of soil from the remaining underlying soil
 DIAGRAM C -- Treat the entire as a single unit

The above diagrams show the total and predicted soluble lead concentrations in each grouping of soil depending on how the various levels of soil are segregated. For instance, Diagram A shows a scenario where the top of soil is excavated and kept separate from the underlying soil. In this case, the top of soil would be expected to exhibit an average total lead concentration of mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of mg/l. The underlying soil would be expected to exhibit an average total lead concentration of mg/kg and a predicted average (WET-Citric Acid) soluble lead concentration of mg/l.

Bin	Frequency
2.397895	1
3.017215	6
3.636535	16
4.255856	16
4.875176	14
5.494496	7
6.113816	7
6.733136	8
7.352456	8
More	4



<i>Bin</i>	<i>Frequency</i>
11	1
331.7778	61
652.5556	8
973.3333	6
1294.111	4
1614.889	3
1935.667	2
2256.444	0
2577.222	0
More	2

